This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

3 3433 06824244 9

THE

NEW YORK PUBLIC LIBRARY

PRESENTED BY

Religious Society of Friends
17 Jan. 1917

32

A

DEMONSTRATION

OF THE

EXISTENCE of GOD;

DEDUCED

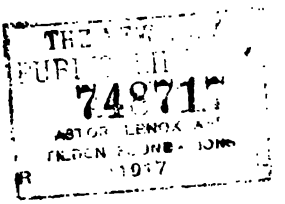
From the Knowlege of NATURE,

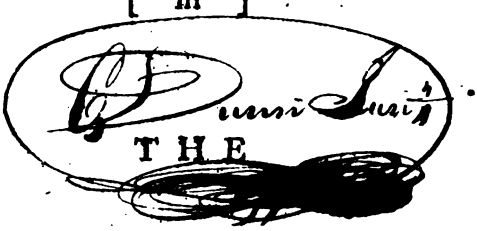
And of MAN in particular;

Suited to the moſt ſimple Capacities.

By *Francis de Salignac de la Mothe Fenelon*,
Archbiſhop of *Cambray*.

GLASGOW:
Printed by R. URIE, MDCCLIV.


74871
1917



THE

French EDITOR'S

PREFACE.

NOTHING is more ſhameful for human nature, or more betrays the corruption of it, than the neceſſity, which pious men have at all times ſeen, of writing to prove the exiſtence of God. Reaſon, indeed, is not yet impaired to ſuch a degree, in any man, as entirely to miſtake its own origin, and be ignorant of a truth, which the great author of it has ſo carefully engraven on every part of his work. To be conſcious of our own exiſtence, is in a man-

ner to know that God exiſts. The idea of ourſelves is ſo perfectly connected with the idea of God, that a very ſlight examination of the firſt neceſſarily leads us far into the light and luſtre of the latter. We cannot poſſibly avoid being ſo much irradiated by its brightneſs, that, though there may be hypocrites in the profeſſion of atheiſm, there never was, nor can be a true atheiſt. Our opinion of the diſingenuity of theſe impious men is founded on the open confeſſion which the moſt determined amongſt them have a thouſand times made, that they can not forbear believing the exiſtence of a God, in ſpite of all the pains they took to root out this belief in others. Neither the ſmall number of thoſe who have been leſs ſincere, nor the mad fury of three or four, who were ſo daring as to maintain their impiety in the inſtant of death, is ſufficient to invalidate the complete proof reſulting from this confeſſion. Diſſimulation may be carried to a

very great length. A vain fondneſs of falſe glory, with a ſort of unaccountable rage that gets poſſeſſion of a ſoul which God has abandoned, are apt to tranſport it beyond itſelf, and hurry it on to render its crime as atrocious as poſſible. The deſpair of a man, who cannot really doubt the exiſtence of a God, whatever he may have pretended; who is juſt on the verge of eternity, ready to fall under the rigour of divine juſtice; and who, notwithſtanding, refuſes to reconcile himſelf with this God, whom he has profaned; is indeed a more extravagant diſpoſition of mind, than all the other inſtances of obſtinate diſſimulation among profeſſed atheiſts: and yet, even this deſperate defiance of the ſupreme being is but too frequent.

It is certain, therefore, that as there are no real atheiſts, books aſſerting the exiſtence of a God are not written for them. When an author undertakes to

prove this exiſtence, it is not in order to undeceive men who are fully convinced of the contrary, but only to confirm ſuch as are wavering in their faith. Nor is it to defeat an eſtabliſhed error, but only to prevent and diſſipate doubts. But ought this, in the leaſt, to leſſen our ſhame? Ought we not to bluſh as readily for the crime of an impious man, as for the obſtinate blindneſs of a real atheiſt? And if the weakneſs of an underſtanding, from whom the moſt evident truths ſhould be entirely hid, would be a diſhonour to human nature; does the perverſeneſs of a heart, which voluntarily glories in the ſame ignorance, when it knows better, and thinks it brave to oppoſe at once the light of nature, and its own ſentiments, bring leſs diſgrace upon our ſpecies? How ought we to abhor thoſe profligate men, who are rebels to the firſt of all ſovereigns, and ingrateful towards the moſt liberal of all benefactors; who, at the ſame

time that they are perſuaded of his exiſtence, endeavour to eradicate this perſuaſion from their own minds; who ſtrive againſt full conviction, and labour continually to raiſe clouds before that pure light which they cannot extinguiſh; who exhauſt their wits to invent ſyſtems, which may cauſe others at leaſt to doubt, and ſo augment the number of the diffident and incredulous? This is, indeed, the only wretched reſource they have left, in order to calm the remorſe of their own conſciences, and, if poſſible, to give an air of probability to infidelity, by the imaginary multitude of infidels. But how vain are all their efforts! Every other truth is ſo cloſely connected with this firſt truth, that there is not one of them which has not a tendency to prove it. The mind can contemplate nothing which does not offer God to its view. Though the metaphyſician bewilders himſelf in the ſubtilties of his abſtruſe ſcience, though he purſues tracks in which

very few can follow him; yet ſtill he meets God in his way. Though the mathematician buſies himſelf altogether with bodies, and their dimenſions obvious to ſenſe; yet even in theſe he diſcovers God, though God be a ſpirit. Let the lover of hiſtory load his memory with various events, he cannot, amidſt the croud, overlook the wiſdom, juſtice, and goodneſs of God, who is the ſovereign diſpoſer of all events. The hiſtory of religion, to which he ſees all things elſe directed by a ſupreme intelligence, becomes an irreſiſtible demonſtration that ſuch an intelligence exiſts. The traveller may wander through divers countries, and he will find that God is every where known, though the ideas of him are in ſome places very confuſed: but this, however, is ſufficient to convince him, that nothing but a brute can be ignorant of God's exiſtence.

But the moſt evident of all proofs,

is that which is drawn from the knowlege of the univerſe, and the knowlege of man in particular. We learn from St. *Paul*, and from the wiſe man, or rather from the holy Ghoſt, whoſe organs they both were, that philoſophers were convinced by this demonſtration; which is ſufficient to convince every attentive man. This argument is diſplayed in ſo many places throughout the pſalms, and the royal prophet is ſo very ſublime and moving when he expatiates on it, that we ſee plainly his whole heart is warmed with what he delivers. The holy fathers were ſo well acquainted with the force of it, that, in full confidence it was an irreſiſtible defence againſt impiety, they omitted nothing that might contribute to ſet it in a clear and full light. *Lactantius*, in his book of the work of God; St. *Athanaſius*, in his treatiſe againſt the *Gentiles*; St. *Gregory* of *Nazianzen*, in his 34th ſermon; St. *Baſil*, and St. *Gregory* of *Niſſa*, in

their expoſition of the firſt chapter of *Geneſis*; have employed all their eloquence to render this demonſtration ſenſible. *Grenada*, in his catechiſm, enlarges more upon it than any one of thoſe holy doctors: he even deſcends into the moſt minute particulars, in order to make this proof familiar.

AFTER ſo many great men, the author of the following work has applied himſelf to ſearch this argument to the bottom; to ſupport it by the principles of the moſt rational philoſophy; and, at the ſame time, to adapt it to the meaneſt capacity. There are few men in our age capable of executing ſo great a deſign: but this writer, who formed the plan, has ſucceeded perfectly well in the execution of it. It required a ſublime genius, in order to penetrate all the ſecret ſprings of nature, and unfold its beauties. It required an eloquence, at once abundant, various, eaſy, ſoft, and

inſinuating, to render thoſe beauties ſenſible; to bring down the moſt elevated philoſophy to the level of the people, and to render the heights of the myſtery of God acceſſible to all mankind. It required a genius equally firm and ſubtle, to foreſee and obviate all the cavils of the impious. Theſe great qualities appear united in the preſent work, and diſcover the author, whoſe very ſtile, without thoſe advantages, would have diſtinguiſhed him from all other writers.

It is a pity the public cannot reap the advantage of his labours, unleſs they are gotten from him by ſtealth*. If he had been pleaſed to reviſe the piece now before us, he might, perhaps, have perceived ſome defects in it, which ſcarce any body elſe will diſcover.

* The original of this work was publiſhed in the author's life-time. M. *de Cambray* died in 1715.

UPON the whole, this treatiſe, ſuch as it appears, is certainly the beſt that is extant of the kind. If the refined taſte of the illuſtrious author ſhould find in it ſomething that may be improved, I ſuſpect his delicacy would, in this inſtance, be ſcrupulous beyond meaſure. It would even be a doubt with me, whether his modeſty would not, for once, get the better of his excellent judgment.

THE CONTENTS

Of the feveral

SECTIONS.

SECT. I. *The metaphyſical proofs of the exiſtence of God are not capable of being underſtood by the generality of mankind* Pag. 1

II. *The moral proofs of the exiſtence of God are evident to the meaneſt capacity* 2

III. *Why ſo few perſons give attention to the proofs nature furniſhes of the exiſtence of God* 3

IV. *All nature ſhews the exiſtence of its author* 5

V. *Beautiful comparifons, which demonſtrate*

the being of a God. Compariſon I. *taken from the* Iliad *of* Homer 5
VI. *Compariſon* II. *taken from the ſound of inſtruments* 7
VII. *Compariſon* III. *drawn from ſtatuary* ib.
VIII. *Compar.* IV. *derived from painting* 8
IX. *A particular inquiry into nature* 11
X. *Of the general ſtructure of the univerſe* ib.
XI. *Of the earth* 12
XII. *Of plants* 15
XIII. *Of the water* 18
XIV. *Of the air* 22
XV. *Of fire* 23
XVI. *Of the heavens* 24
XVII. *Of the ſun* 26
XVIII. *Of the ſtars* 28
XIX. *Of animals* 32
XX. *Of the wonderful arrangement of all the bodies which compoſe the univerſe* 38
XXI. *Of the wonders of bodies infinitely ſmall* 39
XXII. *Of the ſtructure of the animal* 40
XXIII. *Of the inſtinct of the animal* ib.
XXIV *Of food* 43
XXV. *Of ſleep* 45
XXVI. *Of generation* 46

XXVII. *Some faults which the beaſts commit, do not prevent their inſtinct being infallible in many things* 52
XXVIII. *The impoſſibility of beaſts having a ſoul* 54
XXIX. *The ſentiments of ſome antient philoſophers, with regard to the ſoul and knowlege of beaſts* 56
XXX. *Of man* 59
XXXI. *Of the ſtructure of the human body* 60
XXXII. *Of the ſkin* 61
XXXIII. *Of the veins and arteries* 62
XXXIV. *Of the bones, and their arrangement* 63
XXXV. *Of the organs* 66
XXXVI. *Of the internal parts* 68
XXXVII. *Of the arms, and their uſe* 69
XXXVIII. *Of the neck and head* 70
XXXIX. *Of the forehead, and other parts of the body* 72
XL. *Of the tongue and the teeth* 74
XLI. *Of the ſmell, the taſte, and the hearing* 75
XLII. *Of the proportion of the human body* 77
XLIII. *Of the ſoul. She alone is endowed*

with the privileges of reaſon and reflection 78
XLIV. *What is material, cannot think* 80
XLV. *Of the union of the ſoul and body, of which God alone can be the author* 81
XLVI. *The empire of the ſoul over the body is abſolute* 84
XLVII. *The power of the ſoul over the body is not only abſolute, but blind* 85
XLVIII. *The power of the ſoul over the body appears in all the images traced in the brain* 88
XLIX. *Two wonders of the memory and the brain* 92
L. *The ſoul of man is compoſed of grandeur and weakneſs. Its grandeur conſiſts in two points.* 1. *The ſoul has the idea of infinitude* 93
LI. *The ſoul only knows what is finite, by its idea of what is infinite* 94
LII. 2. *The ideas of the mind are univerſal, eternal, and unchangeable* 95
LIII. *Of the weakneſs of the human mind* 97
LIV. *The ideas of man are the immutable rules of his judgment* 100
LV. *What reaſon is in man* 101

LVI. *Reaſon is the ſame in men of all ages, and all countries* 102

LVII. *Reaſon in man, is independent of, and above him* 105

LVIII. *It is the primitive truth that lights all minds, by communicating itſelf to them* 106

LIX. *It is by the light of the primitive truth that a man judges of the truth or falſhood of what is ſaid to him* 109

LX. *The ſuperior reaſon that reſides in man, is God himſelf; and whatſoever hath hitherto been diſcovered to be in man, are evident footſteps of the divinity* 110

LXI. *Other ſenſible traces of the divinity in man, drawn from the knowlege which man has of unity* 112

LXII. *The idea of unity proves, that there are ſubſtances not material, and that there is a being perfectly one, who is God* 116

LXIII. *The dependency and independency of man. His dependency proves the exiſtence of his Creator* 118

LXIV. *Volition to good can proceed only from a ſuperior being.* 121

LXV. *A ſuperior eſſence being the cauſe of*

LXXXV. *The Clinamen, or inflection of atoms in their courſe, is a mere chimera, which plunged the Epicureans into a groſs contradiction* 161

LXXXVI. *A ſtrange abſurdity of the Epicureans, who pretend to account for the nature of a ſoul, by the declination of atoms* 163

LXXXVII. *The Epicureans ſhut their own eyes, when they endeavour to explain the liberty of man by the inflexion of atoms* 164

LXXXVIII. *It is neceſſary to acknowlege the hand of a firſt cauſe in the univerſe, without inquiring why that firſt cauſe has left any defects in his work* 169

LXXXIX. *A compariſon between the defects of the univerſe and thoſe of a picture* 173

XC. *We muſt of neceſſity conclude, that there is a firſt being, who formed the univerſe* 175

XCI. *Reaſons why men do not diſcover God in the univerſe, when he exhibits himſelf to them as in a faithful mirror* 176

A prayer to God 178

A DEMONSTRATION OF THE EXISTENCE of GOD.

DEDUCED FROM

The knowlege of nature, and more particularly from that of man; fuited to the moſt ſimple capacities.

I.

" *The metaphyſical proofs of the exiſtence of God* " *are not capable of being underſtood by the* " *generality of mankind.*"

I CANNOT open my eyes, without admiring that art, which ſhines forth through all nature. The ſlighteſt glance is ſufficient to perceive the hand of a Creator.

LET men, accuſtomed to meditate abſtruſe truths, and trace things to their firſt principles, endeavour to know God by his *idea*. I will not deny, that this is a ſure way of arriving at the ſource of all truth. But the ſhorter and directer

it is, the more inacceſſible and rough it muſt be to the generality of men, who depend only on their ſenſes.

It is ſo ſimple a demonſtration, that, by its very ſimplicity, it eſcapes minds incapable of operations purely intellectual. The more perfect this method of inveſtigating the ſupreme Being is, the fewer there are capable to make uſe of it.

II.

" The moral proofs of the exiſtence of God are " evident to the meaneſt capacity."

BUT there is another way leſs perfect, proportioned to men of the loweſt rank. Thoſe the leaſt acquainted with the uſe of reaſon, or the moſt attached to ſenſual prejudices, may at one view diſcover that being, who has revealed himſelf in all his works. The wiſdom and power he has ſhewn, in every thing he has produced, diſplay themſelves as in a *mirror* to thoſe who cannot contemplate his purer eſſence. This is a popular and ſenſible philoſophy, which every diſpaſſionate and unprejudiced man is capable of. *" The human ſoul,* ſays AUGUSTINE, *is rational; " but, being fettered by theſe chains, which are " the puniſhment of ſin, is reduced to that low " ſtate, as by conjectures on viſible objects to*

" *ſtrive to attain to the knowlege of inviſible* " *things* ‡."

III.

" *Why ſo few perſons give attention to the proofs* " *nature furniſhes of the exiſtence of God.*

IF many men of a learned and penetrating genius have failed to diſcover GOD by this comprehenſive view of all nature, we muſt not be ſurprized. The paſſions, which agitate and engroſs them, put them in continual diſtraction; or elſe the falſe prejudices ariſing from the paſſions have ſhut their eyes to this *grand ſpectacle* §. A man eagerly intereſted in an affair of conſequence, which takes up his entire thought, would paſs ſeveral days in a room in adjuſting his affairs, without minding either the proportions of the apartments, the ornaments of the chimney, or the pictures which ſurrounded him. All theſe objects, though conſtantly preſent to his eyes, would make no impreſſion upon him. In this manner live

‡ *Humana autem anima rationalis eſt, quae mortalibus vinculis peccati poena tenebatur, ad hoc diminutionis redacta, ut per conjecturas rerum viſibilium ad intelligenda inviſibilia niteretur.* AUGUSTIN. de Lib. Arbit. *Lib.* III.

§ *Ipſius vero mundi, qui omnia complexu coercet et continet, non artificit ſolum, ſed plane artifex, ab eodem Zenone, dicitur; conſultrix et provida utilitatum, opportunitatumque omnium.* CICERO, de Nat. Deor. *Lib.* II.

mankind. Every thing preſents them the *Deity*, yet they can ſee him on no ſide. "*He was in* "*the world*," (ſays St. John), "*and by him the* "*world was made; and yet the world knew him* "*not* §." Men paſs their life, without having ſeen this ſenſible repreſentation of the divinity; ſo much the faſcination of the ſenſes blinds the eyes of the underſtanding. Often, indeed, they will not open them; but affect to keep them cloſed, for fear of finding him they do not ſeek. Laſtly, what ſhould contribute moſt to clear their ſight, tends only to cloud it the more. I mean the conſtancy and regularity of thoſe motions, which the divine wiſdom has eſtabliſhed in the univerſe. *Theſe things grow contemptible by cuſtom* ‡. Cicero talks exactly in the ſame ſtyle: "*By ſeeing every day*" (ſays he) "*the ſame ob-* "*jects, the mind grows accuſtomed to them, as* "*well as the eyes. It neither admires, nor gives* "*itſelf any trouble to ſearch the cauſe of thoſe* "*effects, which daily appear without variation.* "*As if the novelty, not the grandeur of things,* "*ſhould excite our curioſity to inquire into their* "*original* †."

§ *John* i. 10. ‡ *Aſſiduitate vilueraut.*

† *Sed aſſiduitate quotidiana et conſuetudine oculorum aſſueſcunt animi, neque admirantur, neque requirunt rationem earum rerum, quas ſemper vident; perinde quaſi novitas nos magis quam magnitudo rerum debeat ad exquirendas cauſas excitare.*

IV.

" *All nature ſhews the exiſtence of its author.*"

THE infinite art of the Creator is viſible through all nature. By *art*, I mean an aſſemblage of means expreſly choſen to arrive at an appointed end; an order, an arrangement, a contrivance; in a word, a *formed deſign. Chance*, on the contrary, is a blind and neceſſary cauſe; which can neither prepare, diſpoſe, nor ſelect any thing; having neither will nor intelligence. Now I maintain, that the univerſe bears the marks of a power or cauſe infinitely powerful and wiſe. I affirm, that chance, that is to ſay, a blind fortuitous concourſe of neceſſary cauſes, ſtripped of reaſon, could never form this whole §. It is therefore proper here, to lay before the reader ſeveral compariſons drawn from the antients.

V.

" *Beautiful compariſons, which demonſtrate the* " *being of a God.*"

COMPARISON I. *Taken from the Iliad of* Homer.

WHO would believe that *Homer*'s *Iliad*, that maſterly poem, which bears ſuch characters of perfection, was never compoſed by an exerti-

§ *In quibus nulla temeritas, ſed ordo* apparet, *et artis quaedam ſimilitudo.* CICERO, de Nat. Deor. *Lib.* II.

on of *genius* in that great poet; but that the letters of the alphabet being thrown together in confuſion, a pure ſtroke of hazard (like a caſt of the dye) reaſſembled theſe letters preciſely in the order neceſſary to compoſe in verſe, full of harmony and variety, ſo many grand events! To place and connect them ſo juſtly together, and deſcribe each object in the moſt attractive, noble, and engaging light; in fine, to make every perſon ſuſtain his character in ſo natural and lively a manner! Reaſon and ſubtilize as much as you will, you will never perſuade a man in his ſenſes, that the *Iliad* had no author but chance. *Cicero* ſays the ſame thing of the Annals of *Ennius* §; and adds, that hazard could never produce a ſingle diſtich; much leſs, an intire poem. Why then will this judicious writer believe of the univerſe (without diſpute, a more marvellous work than the *Iliad*) what his good ſenſe would not allow him to think of this poem? But let us paſs to a ſecond compariſon, taken from St. *Gregory Nazianzen*.

§ CICERO, *de Nat. Deorum*, Lib. II.

VI.

COMPARISON II. *Taken from the ſound of inſtruments.*

WERE we to hear in a chamber, behind a curtain, a ſoft and harmonious inſtrument; could we imagine, that chance, without any human aſſiſtance, had formed this inſtrument? Did ever any man ſay, that the ſtrings of a violin voluntarily came to place themſelves in order, ſtretched along an inſtrument, whoſe pieces are put together to form a cavity with regular overtures? Shall we aſſert, that the bow, made without ſkill, was moved by the wind to touch each ſtring ſo diſtinctly and juſtly? What reaſonable mind can ſeriouſly doubt; but a human hand touches this inſtrument, with ſo much harmony! Will not the auditor cry, it is a maſterly hand? We are never weary of diſcovering the ſame truth.

VII.

COMPARISON III. *Drawn from ſtatuary.*

WHOEVER ſhould find in a deſert and unknown iſland an exquiſite ſtatue of marble, would certainly reaſon thus: doubtleſs, this place was once inhabited. I ſee, in this piece before me, the hand of a curious ſculptor; I ad-

mire the delicacy, with which he has proportioned all the parts of this figure, to give them ſo much grace, majeſty, life, tenderneſs, motion, and action.

WHAT would this man ſay, if ſomebody took in their head to tell him; "No: this ſtatue was "never the work of an artiſt. It is true, it is "made in the moſt perfect taſte, and according "to all the rules of art; but it is all the effect of "chance. Amongſt many pieces of marble, one "aſſumed that ſhape by mere hazard; a violent "ſtorm carried it directly to this pedeſtal, which "of itſelf ſtood ready to receive it. Suppoſe it a "*Venus*, equal to that of *Medicis*; or a *Hercu-*"*les*, like the *Farneſian*. You think this image "ready to move, and animated with life; but it "owes nothing to art. A blind ſtroke of chance "alone has finiſhed and placed it in the manner "you ſee."

VIII.

COMPARISON IV. *Derived from painting.*

IF a perſon ſhould ſee a fine picture, for example, ſome capital piece repreſenting the paſſage of the *Red-Sea*, by *Moſes*, at whoſe command the waters ſeparate and riſe like two walls, to form a dry road for the *Iſraelites* through the watery

abyſſes: on one hand you ſee this numberleſs multitude of people full of joy and confidence, lifting up their hands to heaven: on the other appear *Pharaoh* and his *Egyptians*, full of trouble and amazement at the view of the waves, which unite again together to ſwallow them up: would not ſuch a beholder laugh at the man who ſhould ſeriouſly tell him, that a ſervant-girl accidentally daubing the canvas with her bruſh, the colours ranged themſelves in order, and produced thoſe lively tints, thoſe varied attitudes, thoſe paſſionate looks, that fine diſpoſition or grouping of ſo many figures without confuſion, that nicety and eaſe in the draperies; that juſt diſtribution of lights, and ſhades; and that exact perſpective; in ſhort, every thing that the moſt maſterly genius in painting could produce? Indeed, were the queſtion only about a little froth on a horſe's mouth, I own (according to the relation given of it) and can ſuppoſe it without examining, that a ſtroke of a pencil, given by the painter in his anger, might for once happen to hit right. But, at leaſt we muſt allow, he had choſen the proper colours to repreſent this froth; and that they then lay on his pencil; ſo that even here chance had but a ſlender ſhare in what art had begun. Beſides, this very production of chance and art together, was but a little froth; a confuſed object, fit only to do honour to an accidental ſtroke,

which required only a little white dropt from the point of the pencil, without any preciſe figure, or correctneſs of deſign. What compariſon then can there be between this, and an *hiſtorical piece*, where the moſt fruitful imagination, and the moſt enterpriſing genius, ſupported by a knowlege of the rules of art, ſcarce ſuffice to execute ſuch an excellent deſign? I cannot quit theſe examples, without intreating the reader to obſerve, that the wiſeſt men have an extreme reluctance to believe, that beaſts are deſtitute of all ſenſe, and only pure machines. Whence ariſes this? It is becauſe they juſtly ſuppoſe, that motions ſo exact, and ſo agreeable to the laws of mechaniſm, could never be produced without ſome ingenuity; and that matter alone, without art, can form nothing, which diſcovers ſo much knowlege. Hence we plainly ſee, that right reaſon naturally concludes, that ſimple matter cannot, either by the plain laws of motion, or the capricious ſtrokes of chance, produce animals which are only bare machines. Even the philoſophers, who denied all knowlege to beaſts, could not avoid acknowleging, that what they ſuppoſed blind and void of art in theſe machines, is full of wiſdom and contrivance in the firſt mover, who formed their ſprings, and regulated their motions. Thus the moſt oppoſite philoſophers equally confeſs, that matter and

chance, without art, are incapable of producing what we ſee in the animal creation.

IX.

" *A particular inquiry into nature.*"

AFTER theſe *compariſons*, concerning which I beg the reader would ſimply conſult himſelf, without reaſoning; I think it now time to enter into a detail of *nature*: not that I pretend to penetrate it thoroughly. That were an impoſſible taſk. I do not even intend to enter into any phyſical diſquiſition. Theſe diſcuſſions ſuppoſe a depth of knowlege, which many perſons of ſenſe are deſtitute of; and I only want to repreſent the face of nature, as it were, in a tranſient view. I would only lay before them, what all the world knows, and which requires but a ſmall degree of calm and ſerious attention to underſtand.

X.

Of the general ſtructure of the univerſe.

LET us ſtop a little, to conſider that grand object which attracts our firſt notice; I mean, the general ſtructure of the univerſe. Let us caſt our eyes on the earth, which bears us. Let us regard the immenſe arch of heaven, which ſurrounds us; and thoſe ſtarry orbs, which give us

light. A man, who lives without reflection, thinks only of the ſpaces near him, or which have ſome relation to his wants: he looks on the earth in the ſame light as he does the floor of his room; and the ſun is no more to him by day, than the lamp he burns at night: his ſentiments do not extend an inch beyond his ſituation. On the contrary, a man of judgment carries his views farther, and conſiders, with a mixture of curioſity and amazement, the infinite ſpace in which he is placed. A vaſt empire then appears no more to him, than a ſmall corner of the earth; the earth itſelf looks like a point, compared with the univerſe; in which he is ſurprized to ſee himſelf placed, without knowing how he came there.

XI.

Of the earth.

WHAT hand has ſuſpended this globe of the earth immoveable in the air? Who has laid its foundations? Nothing in appearance is more viſible; ſince the greateſt wretches trample it beneath their feet. Yet, to poſſeſs it, we grudge not the greateſt treaſures. Were it harder, man would be unable to cultivate or improve it: were it ſofter, it would be inſufficient to bear him; he would ſink every-where, like one on the ſands, or in a quagmire. It is out of the inexhauſtible bo-

ſom

ſom of the earth, that we draw every thing valuable and precious. This ſhapeleſs, contemptible, and groſs maſs aſſumes the moſt various forms, and yields us ſucceſſively all the bleſſings we deſire. This filthy dirt transforms itſelf into a thouſand charming objects. In one year it becomes branches, buds, leaves, flowers, fruits, ſeeds; thus renewing its bounty in favour of mankind. Nothing exhauſts it. The more you labour and till it, the more it yields. After being, for ſo many ages, the mother of abundance; the earth is ſtill young, and diſcovers no marks of old age. Her bowels are ſtill full of the ſame treaſures. A thouſand generations have paſſed in her boſom. Every thing grows old, except her; for every ſpring ſhe conſtantly renews her face. She is not wanting to mankind, but fooliſh man is his own enemy, by neglecting to cultivate her. It is by his ſloth or irregularity, that briars and thorns riſe, where vintages and harveſts might flouriſh. Men diſpute an advantage they neglect. Conquerors leave untilled the ground, for the poſſeſſion of which they have thrown away ſo many thouſand lives. Mankind have before them vaſt tracts of land, waſte and uncultivated; and yet the world is embroiled for a corner of this neglected land. The earth, were it duly cultivated, would maintain a hundred times the number of its preſent inhabitants. Even the inequality of ſoils, which

at firſt ſight ſeems a defect, is in reality both ornamental and uſeful. The mountains are raiſed up, and the valleys depreſſed, in the places GOD has appointed. Theſe different regions, according to their various aſpects to the ſun, have their diſtinct advantages. The deep vales yield freſh paſture for the cattle. Here ſpread the wide plains, covered with golden plenty. There the hills gently riſe like an amphitheatre, crowned with vines and fruit-trees. Beyond theſe, the towering mountains lift their ſnowy heads to the ſkies, and diſtil, from their ſides, brooks and torrents, which become the ſource of rivers. The rocks, which ſhew their ſteep ridges, ſuſtain the earth of theſe mountains, as the bones of the human body do the fleſh. This variety forms a thouſand beautiful landſkips, and, at the ſame time, anſwers all the different wants of mankind. There is no ſoil ſo ungrateful as to be abſolutely fit for nothing. Not only black and fertile molds, but even clayey and ſandy grounds, fully reward the labourers toil. Marſhes, dried up, become fruitful. As for ſands, they uſually cover only the ſurface of the earth; and when the huſbandman has the patience to turn them up, he finds a freſh ſoil, which grows fruitful in proportion, as it is ſtirred up, and expoſed to the rays of the ſun.

IN ſhort, no ground is intirely barren, if man will but beſtow a proper care in its culture; and demand no more from it, than it is capable of producing. In the midſt of rocks we find excellent pieces of paſturage. In theſe cavities there are veins, which the rays of the ſun penetrate; and which fill the plants with juices proper for the nouriſhment of the flocks. The ridges, which appear moſt wild and barren, often produce delicious fruits, or ſalutary remedies; which are not found, even in the moſt fertile countries: beſides, it is a remarkable proof of the wiſdom of providence, that no country produces all that is neceſſary to human life. For mutual wants produce mutual commerce, by which men reciprocally ſupply each other's neceſſities. Now, this indigence is the natural bond of ſociety between nations; otherwiſe, all the people of the world would be reduced to one kind of dreſs and food, and have no deſire to maintain any ſocial acquaintance or intercourſe with each other.

XII.

Of Plants.

ALL that the earth produces, corrupting, returns into its boſom, and becomes the ſource of new fertility. Thus it reſumes all it has given,

to reſtore it with intereſt. So the putrefaction of the plants, and the excrements of the animals it nouriſhes, nouriſh it in return, and improve its fecundity. Thus, the more it gives, the more it reſumes; nor is it ever waſted, provided in its cultivation, you know the right method to ſupply it. All things come out of its boſom, all return thither; yet nothing is loſt. The ſeeds, thrown into it, are multiplied. Intruſt the earth with grains of corn; theſe, by rotting, take root; and this fruitful mother returns, with uſury, more ears than it received grains. Dig into her bowels, you will there find ſtone and marble for the nobleſt edifices. But who is HE, who has incloſed ſo many treaſures in the bowels of the earth, on condition they ſhould re-produce each other without end? Such are ſeveral kinds of precious and uſeful metals, as well as minerals, deſigned for the ſervice of mankind.

ADMIRE the plants ariſing from the earth, which furniſh food to the healthy, and remedies to the ſick. Of theſe the ſpecies and virtues are numberleſs. They adorn the face of nature. They afford verdure, odoriferous flowers, and delicious fruit. Regard theſe vaſt foreſts, which ſeem coeval with the world itſelf. The roots of theſe ſpread themſelves beneath the ground, as their tops aſcend to heaven. The former ſecure

them againſt the ſtorms, and by their ſubterraneous fibres convey a proper nouriſhment to the body of the tree. This again is defended by a ſtrong bark to ſhelter the trunk from the injuries of the air. The branches, by different canals, diſtribute the ſap, which the roots had ſent up to the body. In ſpring, theſe branches, by their ſhade, ſcreen us from the rays of the ſun. In winter, they nouriſh that warmth, which preſerves in us the natural heat. Nor is their wood only uſeful for fuel. Being of a ſoft ſubſtance, though ſolid and durable, mankind eaſily give it what forms they pleaſe, for the great works of architecture and navigation. The fruit-trees, by inclining their branches to the earth, ſeem to offer us their bounty. Both trees and plants, by ſhedding their fruits and ſeeds, ſecure the means of their own propagation. The weakeſt vegetable, the ſmalleſt herb, contains in miniature as it were a ſeed, which is the original of what we ſee in the talleſt plants, and the largeſt trees. The earth, without changing herſelf, produces all theſe changes in her own boſom.

XIII.

Of the Water.

LET us next take a view of the element we call *water:* this is a liquid, clear, tranſparent body. On the one hand it runs, eſcapes the touch, and flies away. On the other, it aſſumes the ſhape of all the bodies which ſurround or incloſe it, having none of its own. Were water a little more rarified, it would be a kind of air; all the face of the earth would become dry and barren: it could only entertain creatures of the feathered kind. No other animal would be able to ſwim, nor fiſh to live in it. All commerce by navigation would be deſtroyed. What allwiſe hand has, by ſubtilizing the air, found means to condenſe the water; yet, at the ſame time, ſo admirably diſtinguiſhed thoſe two kinds of fluid bodies? Were the water more rarified, it could not ſupport thoſe large floating edifices we call ſhips. The lighteſt bodies would immediately ſink. What thought has ſo nicely adjuſted the configuration of the parts, and aſſigned ſo exact a degree of motion, as to render water thus fluid, inſinuating, apt to fly off; and, in ſhort, incapable of all conſiſtence; yet, at the ſame time, ſtrong enough to bear, and impetuous enough to carry

away, the heavieſt maſſes? This element is tractable. Man leads and diſtributes it as he pleaſes. He raiſes it, by art, up the ſteepeſt hills; and makes uſe of its own gravity, to force it again to the ſame height from whence it falls. But he, who rules the waters with ſo abſolute a ſway, is often, in his turn, forced to yield to their power. Water is one of thoſe grand moving bodies, which man knows how to employ, to aſſiſt him in the moſt neceſſary arts; in which his ſtature and ſtrength are of no uſe to him. Yet theſe waters, which, notwithſtanding their fluidity, form ſuch heavy maſſes, are often raiſed above our heads, and remain a long time ſuſpended there. Do you behold thoſe clouds, *which fly, as it were, on the wings of the wind?* If theſe ſhould deſcend ſuddenly in ſolid columns of waters, rapid as torrents, they would drown and deſtroy every thing in the place of their fall, and the reſt of the country would remain burnt up. What power keeps theſe aereal reſervoirs balanced on high, and ſuffers them only to diſtil drop by drop, as if they were ſprinkled by a watering-pot? Whence comes it, that in certain hot countries, where it ſcarce ever rains, the nightly dews are ſo abundant, as to ſupply this defect? And that in other regions, ſuch as the banks of the Ganges and the Nile, the regular inundation of the rivers, at certain ſeaſons of the year, ſhould, preciſely in

the nick of time, provide for the wants of the people, by watering their lands? Can we conceive meaſures more juſtly taken to fertilize the earth?

THUS, water not only quenches the thirſt of man, but alſo refreſhes dry and barren lands. The hand, to which we owe this precious gift, has carefully diſtributed it through the earth, like the canals of a garden. The waters deſcend from the high mountains, where their ſprings lie. They form large brooks in the valleys. The rivers wind through the ſpacious plains, the better to water them. They next precipitate themſelves into the ocean, to make it the centre of commerce to all nations. This ocean, which ſeems placed in the middle of the earth, as an eternal bar of ſeparation; on the contrary, affords a conveniency to all thoſe who cannot paſs by land from one country to another, without great fatigue, long delays, and imminent dangers. It was by this pathleſs road acroſs the deep, that the *old world* became firſt acquainted with the *new*; from whence it has ſince drawn ſo many advantages, and ſuch immenſe treaſures. The waters, thus diſperſed with infinite art, circulate through the earth, juſt as the blood does in the human body. But, beſides this conſtant circulation of the waters, we have ſtill to conſider the

ebbing and flowing of the ſea. Let us wave a preſent inquiry into the cauſes of this myſterious effect. What is certain is, that the ſea advances and retires preciſely in the ſame places, at the ſame hours. Who is the author of this regular motion? A degree more or leſs of this motion would put all nature out of joint. A degree more in the ſpring of the tide would overflow whole kingdoms. Who has laid down exact meaſures to ſuch vaſt and ungovernable bodies? Who has known to keep the preciſe medium between too much and too little? Who has aſſigned the ſea an immoveable boundary, which it was to preſerve in all future ages, by ſaying, *Here ſhall your proud waves be ſtayed?* Yet theſe waters, ſo ſoft and pliable in ſummer, become, during winter, as hard as ſtone. The ſummits of the higheſt mountains are, at all times, covered with ice and ſnow, which form the ſources of rivers; and which, by watering the paſtures, render them more fruitful. Here, the waters are ſweet, to quench the thirſt of man and beaſt: there, they yield a tincture of ſalt, which ſeaſons them, and ſerves to preſerve our food from corruption. In ſhort, if I raiſe my head, I perceive, in the clouds above us, whole ſeas ſuſpended, to ſtop the ſcorching rays of the ſun, and water the thirſty glebe. What power could collect and manage theſe watery ſtores, ſo

els. This very fire remains peaceably concealed in the veins of a flint; and, to diſcover itſelf, only waits the ſhock of ſome external body. From ſo ſlight a cauſe ſpring earthquakes, which overturn mountains and cities. Man knows how to light up this element, and apply it to his own uſes, to ſoften the hardeſt metals; or, with wood or coal, to produce, in the coldeſt climates, a light and warmth, which ſupplies the place of the ſun, when he withdraws his beams. This vital heat inſenſibly penetrates all ſeeds. It is like the ſoul of life, conſuming all that is impure, and renewing what it purifies. This fire ſtrengthens men too weak. It ſuddenly conſumes edifices and rocks. But would we aſſign it a more moderate uſe; it kindles up new life, it ſerves to dreſs our food. The antients admired this element ſo, that they fancied it a celeſtial treaſure which man ſtole from the gods.

XVI.

Of the Heavens.

IT is time to raiſe our eyes towards the heaven. What power has ſtretched out above our heads this vaſt and ſuperb canopy! What an aſtoniſhing variety of admirable objects! It is to preſent us this magnificent ſpectacle, that an

omnipotent hand has placed before our eyes ſuch grand and ſtriking views. "It is to make us admire the heaven (ſays *Cicero)* that God has "formed man different from other creatures. He "walks upright, and lifts his head, that he may "be converſant with things above." Sometimes the heavens preſent a dark blue, in which the cleareſt fires become more luminous. Sometimes a ſky preſents itſelf, tempered with the ſofteſt colours that painting can deſcribe. Sometimes clouds appear of all figures, and the brighteſt dyes, which vary every moment the decorations of the ſcene, by the ſweeteſt changes of light. The regular ſucceſſion of nights and days, what does it give us to underſtand! The ſun for ſo many ages never fails to ſerve mankind, who could not bear his abſence. The dawn, for ſo many thouſand years, has never once neglected to uſher in the day; it ariſes preciſely at the time and place appointed. *The ſun* (ſays the ſcripture) *knows every day his appointed place of reſt.* From hence, by turns, he enlightens the two hemiſpheres; and viſits all thoſe, to whom he owes his light. The day is the time appointed for ſociety and labour: the night, involving the earth in its ſhade, ends the fatigues, and ſoftens the cares, of mankind. It ſuſpends all tumult, and produces a general calm. It diffuſes ſilence and ſleep. By refreſhing the body, it revives the ſpirits. The morn-

ing ſoon returns, to recal man to his daily toil; and re-animate the face of nature.

XVII.

Of the SUN.

BUT, beſides this ſo conſtant courſe, which forms day and night; the ſun diſcovers another, by which, during ſix months, he approaches one pole, and at the end of that time returns with the ſame care to viſit the other. By this beautiful diſpoſition, one ſun ſerves the whole earth. If the ſun was larger, and placed at the ſame diſtance, he would ſcorch up the world to duſt. Were he leſs, the earth would be frozen, and uninhabitable. If, in his preſent ſtate, he were nearer us, we ſhould be ſet on fire: if remoter, we ſhould not be able to ſubſiſt on this terreſtrial globe, for want of heat. What other compaſſes, but thoſe, whoſe ſweep takes in heaven and earth, could take ſuch juſt meaſures? This great luminary does no leſs good to thoſe parts from whence he withdraws, by giving them time to cool, than he does to thoſe he approaches, to chear with his beams. His benevolent aſpect fertilizes every thing he views. This change produces that of the ſeaſons, whoſe variety is ſo agreeable. The *Spring* huſhes the ſtormy winds, diſcloſes the flow-

ers, and promiſes the fruits. The *Summer* yields her rich harveſts, *Autumn* diſtributes the fruits promiſed by *Spring*. *Winter*, which forms a kind of night (during which man unbends himſelf), hides the treaſures of the earth, only that the ſucceeding ſpring may diſplay them with all the graces of novelty. Nature, thus differently dreſſed, by turns makes ſo many beautiful appearances, that it leaves mankind no time to grow weary of what they poſſeſs.

BUT, how comes the courſe of the ſun to be ſo regular? It appears, this luminary is only a globe of very ſubtle flame, and conſequently very fluid. Who is it confines this flame, ſo moveable and impetuous, in the preciſe bounds of a perfect globe? What hand conducts this flame in ſo exact a line, without deviating to one ſide or the other? This flame is ſupported by nothing. No other body could either guide, or keep it in ſubjection. It would ſoon conſume ſuch a body on its approach. Whither does it go? Who has taught it to wheel inceſſantly with ſuch regularity in ſpaces, where nothing confines it? Does not it circulate round us, purpoſely for our uſe? But, ſuppoſe the contrary, that our earth turns round it; I aſk, whence comes it ſo juſtly placed in the center of the univerſe, to be like the common fire, or rather the ſoul of all nature? I aſk, how a globe,

of ſuch ſubtilized matter, never changes its place, in the immenſe ſpaces which ſurround it; and which, being compoſed of fluid bodies, could never reſiſt the impetuoſity of its flame?

LASTLY, I demand, whence this terreſtrial globe, which is ſo hard and ſolid, moves ſo regularly round this grand luminary, through ſpaces, where no other ſolid body confines it, ſo as to regulate its courſe? Let us ſearch in natural philoſophy, as much as we will, the moſt ingenious reaſons to explain this *phænomenon*. All theſe (allowing them true) would be ſo many proofs of the exiſtence of a deity. The more juſt, ſimple, conſtant, ſure, and productive of good effects, this grand ſpring is, which conducts the machine of the univerſe; the more evident it is the work of an omnipotent, all-wiſe hand, who has ſuited it to ſuch noble and important purpoſes.

XVIII.

Of the STARS.

LET us once more turn our view to theſe immenſe ſpaces, where the ſtars ſparkle above our heads. If theſe celeſtial roofs be ſolid, who was the architect? Who has fixed ſo many grand luminous bodies in certain places of this arch, at

certain diſtances? Who has turned this vaſt canopy ſo regularly round us? If, on the contrary, the heavens are only immenſe ſpaces, filled with fluid bodies, like the air which ſurrounds us; how comes it, that ſuch ſolid bodies ſhould float in it, without ever ſinking, or claſhing with each other? For ſo many ages, that aſtronomical obſervations have been made, we have never been able to diſcover the leaſt diſorder in the heavens. Could a fluid body impart an arrangement ſo conſtant and regular to bodies ſwimming circularly in its boſom? But, what ſhall we think of this almoſt innumerable company of ſtars? The profuſion, with which the hand of God has ſcattered them over the ſkies, ſhews that they coſt nothing to his power. He has ſtrewed the heavens with them, juſt as a magnificent prince, who diſperſes his gold liberally, or adorns his robe with jewels. Let any one aſſert, as he pleaſes, that theſe ſtars are ſo many worlds like our earth; I will grant it for a moment. How wiſe and powerful then muſt that power be, who forms worlds numberleſs, as the grains of ſand which cover the ſea-ſhore? And who, for ſo many ages, directs, without trouble, thoſe moving worlds, as a ſhepherd conducts his flock? If, on the contrary, theſe luminaries are only flames, lighted up to irradiate this little ſpot we call the earth,

they diſcover a power unwearied and boundleſs. What profuſe bounty is it in the Deity, to entertain man, in a corner of the univerſe, with ſo aſtoniſhing a ſpectacle §?

But, amongſt theſe ſtars, I perceive the moon, which ſeems to partake, with the ſun, the care of enlightening us. She ſhews herſelf ſeaſonably, with her radiant train, when the ſun is obliged to withdraw, and reſtore day to the other hemiſphere. Thus, even the night, notwithſtanding its darkneſs, has a light, gloomy indeed, but mild and uſeful. This light is derived from the ſun, though abſent. Thus is the univerſe conducted with ſuch admirable art, that a globe adjoining to the earth, and in itſelf as opaque, ſerves nevertheleſs to convey to us by reflexion the rays it receives from the ſun; and that this ſun, by means of the moon, enlightens ſuch nations as lament his abſence, while he is performing his due office to others.

The motion of the ſtars, you will ſay, is regulated by unchangeable laws. Allow it to be ſo. But this very fact proves, what I want to eſtabliſh. Who has aſſigned to all nature laws,

§ *Sustinendi muneris propter imbecillitatem difficultas minime cadit in majestatem Deorum.* Cic. de Nat. Deorum, lib. ii.

all at once ſo conſtant and ſalutary? Laws, ſo ſimple, that one is tempted to believe they act ſpontaneouſly; and ſo beneficial, that we cannot forbear acknowleging they diſcover a ſurpriſing art. Who conducts this univerſal machine, which inceſſantly revolves for us, without our thinking of it? To whom ſhall we aſcribe the aſſemblage of ſo many ſprings, ſo concealed, yet ſo nicely adjuſted? To whom attribute the harmony of ſo many bodies, great and ſmall, viſible and inviſible, which all equally conſpire to ſerve us? The diſplacing the ſmalleſt atom in this machine would disjoint all nature. The wheels of a watch are not joined with more ſkill or propriety. What then is this plan ſo extenſive, ſo well ſupported, ſo beautiful, and ſo beneficial? The neceſſity of theſe laws is ſo far from hindering me to ſeek out the author, that it only ſerves to augment and heighten my curioſity and admiration. Nothing leſs than a hand, equally knowing and powerful, could place his work in ſo ſimple, fruitful, conſtant, and uſeful an order. I am not afraid, therefore to ſay, with the ſcripture, *That every ſtar haſtens where the* LORD *ſends it: and that when he ſpeaks, they anſwer with trembling, Lo, we are here.*

XIX.

Of Animals.

NEXT let us direct our regard towards the animals; yet more worthy of our admiration than the heavens, or the ſtars. Of theſe are innumerable kinds. Some are furniſhed with but two feet; others, with four; others, with a great many: ſome walk, others creep, others fly; ſome fly, march, and ſwim, all together. The wings of birds, and the fins of fiſhes, reſemble oars, cut the fluid body of the air or water, and conduct the buoyant body of the bird or fiſh, whoſe ſtructure is like that of a ſhip. But the wings of birds have feathers with a down, which ſwells in the air, yet would be heavy in the water. On the contrary, the fins of fiſhes have their points hard and dry, to cleave the water without being ſoaked by it. Certain water-fowl, as *ſwans*, carry their wings, and the reſt of their plumage, very high, for fear of wetting it, and that it may ſerve them for ſails. They have the art to turn this plumage agreeably to the wind; and ſo ſail, as ſhips do, upon a ſide-wind. Other water-foul, as *ducks*, have their feet covered with thick ſkin, which, like raquets, prevents their ſinking, and being entangled, in the marſhy banks of lakes, *ponds, or rivers.*

AMONGST the land-animals, the wild beaſts, as the *lions*, etc. are furniſhed with ſtrong large muſcles on their ſhoulders, thighs, and legs. By this means they are ſupple, active, ſtrong, and ready to ſpring forward. The bones of their jaws are prodigious, in regard to thoſe of the reſt of their body. They have teeth and claws, which are terrible weapons to tear and devour weaker animals. For the ſame reaſon, birds of prey, as *eagles*, have a beak and claws which pierce every thing. The muſcles of their wings are of a large ſize, and compoſed of very hard fleſh. Hence their flight is more quick and rapid. Thus theſe birds, though otherwiſe heavy, eaſily raiſe themſelves to the clouds; from whence they deſcend like lightning, on what prey they can diſcover. Other animals have horns. The greateſt ſtrength of ſome lies in their reins and neck. Others can only kick. Every kind has its arms defenſive and offenſive. Their purſuits are a kind of hoſtility; which they carry on one againſt the other, for the ſupport of life. They have alſo their laws and policy. One, like the *tortoiſe*, carries on his back the houſe in which he was born. On the other hand, others, like the bird, build theirs on the talleſt branches of the trees, to ſecure their young from the inſults of ſuch animals, as are not winged. They even depoſite

their neſts amidſt the thickeſt branches, to hide them from their enemies. The *caſtor*, or *beaver*, again builds his aſylum at the bottom of the waters of a lake or river; and has the art of raiſing dikes to defend it from all inundations. The *mole* is armed with a noſe ſo pointed and ſharp, that, in a moment, he penetrates the hardeſt ſoil, to form himſelf a ſubterraneous retreat. The *fox* digs a burrow with two enteries, that he may not be ſurpriſed, and to elude the ſnares of the hunter. *Reptiles* are of a quite different ſtructure. They fold and unfold themſelves, by the revolution of their muſcles: they climb, they cling, they ſqueeze, they faſten on the objects they meet, and ſubtilely inſinuate themſelves every-where: their organs ſeem almoſt independent of each other; thus they live after being cut aſunder. "Thoſe birds, ſays *Cicero*, which have long "feet, have alſo their neck long in proportion, "to bend their bills to the ground, and take "their ſuſtenance." The *camel* is the ſame. The *elephant*, on the other hand, whoſe neck would be too heavy for his bulk, were it as long as that of the *camel*, is provided with a trunk, which is an aſſemblage of nerves and muſcles: this he can lengthen, draw in, and wind into all ſhapes, to ſeize bodies, to carry them off, or repel them; on which account the *Romans* gave this member the name of a *hand*.

Certain animals ſeem made purpoſely for man. The *dog* is deſigned to attend him, to be diſciplined as he pleaſes; and to give him an agreeable image of ſociety, friendſhip, fidelity, and tenderneſs: he guards what is intruſted to his care; by hunting, he takes ſeveral animals, which he leaves to his maſter, contenting himſelf with what ſhare is allotted him. The *horſe*, and other animals, ſubmit themſelves to the yoke of mankind, to aſſiſt them in their labour, and to carry a thouſand burdens. They are deſigned to eaſe his weakneſs, and obey all his motions. The *oxen* are endued with ſtrength and patience, to draw the plough, and cultivate the earth. The *ſheep* carry in their fleece, which is not their own, and which renews itſelf, a benefit, which invites man to ſheer them annually. Even the *goats* are provided with a long hair, uſeleſs to them; of which men make ſtuffs to clothe themſelves. The ſkins of beaſts furniſh us with the fineſt *furs*, and that in countries the moſt remote from the ſun. Thus the great author of nature has not only clothed thoſe animals ſuitably to their neceſſities; but their ſpoils ſerve for habits, to keep warm the inhabitants of thoſe frozen regions. Such animals, as are unprovided with hair, have uſually a very thick hard ſkin, like ſcales. Others are furniſhed actually with ſcales,

which cover each other like the tiles of a houſe; and which open or ſhut, juſt as it ſuits the creature to dilate or contract itſelf. Theſe ſkins, and theſe ſcales, ſerve the neceſſities of men. Thus, in nature, not only the plants, but the animals, are made for our uſe. Even wild beaſts may be tamed, or at leaſt they ſtand in awe of mankind. If all parts of the world were peopled and civilized, as they ought to be, there would be no animals which durſt attack man. Wild beaſts would be forced to retire to the receſſes of the foreſts, where they would remain to exerciſe the boldneſs, ſtrength, and addreſs of mankind, by a diverſion reſembling war, without giving occaſion to one of a more ſerious kind. But here it is highly proper to remark, that the animals, moſt noxious to mankind, are leaſt fruitful; thoſe, on the contrary, of the beneficial ſort, moſt apt to multiply and increaſe. We kill, beyond all compariſon, more black cattle and ſheep, than we do bears or wolves; yet nevertheleſs, there are infinitely fewer of the *latter*, than of the *former*, on the earth. CICERO obſerves, "That the females of each kind have teats, proportioned to "the number of young they uſually bring forth. "The larger the burden, the greater plenty of "milk has nature afforded them to ſuckle it."

WHILE the ſheep nouriſh their fleeces for us;

the ſilkworm weaves, by way of emulation, rich ſtuffs; and ſpends his very exiſtence to oblige us. Of his cod, he forms a tomb of his own workmanſhip; in which he ſhuts himſelf up, to revive again under a ſtrange, but beautiful form, and ſo perpetuate his own exiſtence. On the other hand, the bees collect with care the juices of the moſt odoriferous flowers, to compoſe their honey; which they diſpoſe with a ſkill and order, that may ſerve for a leſſon to mankind. Many inſects transform themſelves into flies; others into worms. If ſome appear deformed or uſeleſs, we ought to reflect, that what makes a part of this great ſpectacle of nature, and contributes to its variety, is not without its uſe to ſerious and attentive minds. What is more beautiful and magnificent, than ſuch a number of animal republics, ſo exactly civilized; and yet of whom every kind is of a different ſtructure from the other? All diſcovers how much the ſkill of the almighty workman ſurpaſſes the baſe matter he has thus modelled. I am filled with aſtoniſhment at every object, down to the ſmalleſt gnat. If this ſpecies be ſometimes troubleſome, we ſhould remember man has need of ſome little vexations, to give him a reliſh for nobler bleſſings. He would turn effeminate, and forget himſelf, if he had nothing to moderate his joys, or to exerciſe his patience.

XX.

Of the wonderful arrangement of all the bodies which compoſe the UNIVERSE.

LET us now examine the wonders, which equally ſhine forth in the greateſt bodies, and the ſmalleſt. On the one hand, I behold the ſun, ſo many thouſand times larger than our earth; I view him circulate through ſpaces, in compariſon of which he himſelf is but a ſhining atom. I ſee other ſtars, perhaps bigger than he, which revolve in ſpaces yet more remote from us. Beyond theſe, which ſurpaſs all bounds, I confuſedly eſpy other ſtars; which I can neither reckon, nor diſtinguiſh. The earth, on which I ſtand, is but a point, in proportion to this vaſt ſyſtem, where we can find no limit. All this is ſo nicely adjuſted and diſpoſed, that you cannot diſplace a ſingle atom, without diſconcerting this grand machine; which moves with ſo regular an order, that even the motion contributes to perpetuate its variety and perfection. It muſt be ſome omnipotent power, which conducts this work for ſo many ages; and *whoſe fingers* (as the ſcripture expreſſes it) *play upon the univerſe.*

XXI.

Of the wonders of bodies infinitely ſmall.

ON the other hand, the works of nature are no leſs worderful in ſmall, than in great bodies. I find equally in the former a kind of infinite, which aſtoniſhes me, and confounds me. To find in a ring-worm, as in an elephant, or a whale, members perfectly organized; to diſcover a head, a body, legs, and feet, formed like thoſe of the largeſt animals. In each part of theſe living atoms are muſcles, nerves, veins, arteries, and blood. This blood is furniſhed with ſpirits, ramified parts, and humours. Theſe humours again are made up of various particles; ſo that thought loſes itſelf in tracing the progreſſion of a compoſition ſo infinitely minute.

THE *microſcope* diſplays to us in each object, as it were, a thouſand others, which eſcaped our knowlege. Yet, in every object diſcovered by this inſtrument, others ſtill remain unſeen, which the microſcope itſelf can never produce. What wonders ſhould we ſee, if we could continually improve thoſe glaſſes, which are invented for the aſſiſtance of our feeble and rude ſight! But, let us ſupply, by our imagination, the defect of our

eyes, and make it ſerve us as a microſcope, to repreſent in each atom a thouſand new and inviſible worlds. It cannot, however, inceſſantly figure to us new diſcoveries in bodies ſo infinitely ſmall. The taſk would be too painful. It is neceſſary it ſhould ſtop its inquiries, and leave, in the minuteſt organ, a thouſand wonders ſtill undiſcovered.

XXII.

Of the ſtructure of the animal.

LET us conſider now the animal machine, in which there are three things cannot be ſufficiently admired. 1. It is furniſhed with the means of defending itſelf againſt thoſe which would attempt its deſtruction. 2. It has the power of renewing itſelf by food. 3. It can propagate its ſpecies by generation. Let us examine each of theſe three articles.

XXIII.

Of the inſtinct of the animal.

ANIMALS have what we call an *inſtinct*, by which they are taught to ſeek ſuch objects as are uſeful to them, and to ſhun thoſe that are pre-

judicial. We ſhall not at preſent inquire, wherein this inſtinct conſiſts. Let us content ourſelves with the ſimple fact.

THE little lamb ſmells his dam afar off, and runs to meet her. The ſheep is ſeized with horror at the approach of the wolf; and flies, before he can well diſcern his enemy. The hound never fails to diſcover, by his ſcent alone, the way the ſtag has taken. There is, in each animal, an impetuous ſpring, which aſſembles at once all the ſpirits, braces the nerves, renders the limbs more pliant, and increaſes, in a ſurpriſing manner, in ſudden dangers, the ſtrength, agility, ſwiftneſs, or cunning of the animal, in order to avoid the object which menaces his ruin. It is nothing to the preſent queſtion, whether beaſts have knowlege? Nor do I pretend to enter into any philoſophical diſquiſition. If a man, dancing on the ropes, were to reaſon on the laws of an equilibrium, his reflections would make him loſe his balance; which he keeps exactly without reaſoning; and his reaſon would only ſerve to bring him to the ground. The caſe is the ſame with beaſts. Say, as much as you pleaſe, that they reaſon like men; your aſſertion no-way invalidates my proof; ſuch reaſoning can never ſuffice to explain the motions we admire moſt in animals. Shall we ſay, that they underſtand the

deepeſt rules of mechanics, which, at the ſame time, they obſerve with ſuch perfect exactneſs, when they run, leap, ſwim, conceal themſelves, wind again to hide their track from the dogs, or make uſe of the ſtrongeſt part of their body to defend themſelves? Shall we affirm, they naturally know the mathematics, which man is ignorant of? Shall we dare to ſay, that they perform, with deliberation and art, all thoſe movements ſo rapid and juſt, which men do, without ſtudy or thought? Shall we aſſign them reaſon in thoſe very actions, in which it is certain man wants it? It is inſtinct, ſay they, conducts the beaſts. Be it ſo! It is, in effect, an inſtinct; but this inſtinct ſhews a wiſdom, and an admirable ſagacity, not in the animals which neither reaſon, nor on theſe occaſions, can have the leiſure to reaſon, but in that ſuperior wiſdom which directs them. This inſtinct, or thought, which reflects and wills for the animal, in ſudden emergencies, wherein it can neither think nor will, though it were as rational as ourſelves, muſt be owing to the prudence of the workman, who made the machine. Let us then talk no more of inſtinct or nature. Theſe are only various names in the mouths of thoſe who uſe them. There is, in what they call nature and inſtinct, a ſuperior addreſs and ingenuity, of which our human invention is but the ſhadow. What is beyond diſpute is, that

there are in animals a prodigious number of motions intirely indeliberate, which are performed according to the niceſt rules of mechanics. The machine only obeys theſe rules. This is the matter of fact, independent of all philoſophy; and the matter of fact muſt decide it. What ſhould we think of a watch, which ſhould ſeaſonably fly, defend itſelf, or eſcape to preſerve itſelf from the hand which would break it? Should we not admire the ſkill of the artiſt? Could we ever conceive the ſprings of this watch were formed, proportioned, arranged, and put together by pure chance? Would it be a ſufficient explication of theſe nice operations, to talk of the inſtinct and nature of this watch, which preciſely pointed out the hours to its maſter, and eſcaped from all thoſe who endeavoured to ſpoil its movement?

XXIV.

Of FOOD.

WHAT can be more beautiful or excellent, than a machine, which inceſſantly repairs and renews itſelf? Animals, limited in their ſtrength, are ſoon exhauſted by labour; but the more they toil, the more they are preſſed to make themſelves amends by a plentiful nouriſhment. Thus daily aliment reſtores the vigour they have loſt. The

animal receives within his body a foreign ſubſtance, which, by a ſurpriſing kind of metamorphoſis, becomes his own. This at firſt is ground ſmall, and changes into a liquor. It is next purified, as if it were paſſed through a ſieve, to ſeparate from it whatever is too groſs. At length it is conveyed to the centre, or heart, where it is ſubtilized, and becomes blood. Laſtly, it flows, and, by innumerable branches, inſinuates itſelf to bathe all the members. It filtrates through the muſcles, and becomes fleſh itſelf. So many aliments and liquors, of ſuch different taſtes and colours, are now but one fleſh. That food which was an inanimate ſubſtance, by maintaining the life of the animal, becomes the animal itſelf. The parts, which compoſe the creature, are exhaled and carried off by an inſenſible and internal tranſpiration. What four years ago was ſuch a horſe, is now no more than air or dung: what was then hay or oats, is become that very horſe ſo ſprightly and vigorous. At leaſt, he paſſes for the ſame horſe, notwithſtanding this inſenſible change of his ſubſtance.

XXV.

Of SLEEP.

TO food let us join ſleep; by which the animal ſtops not only all external motion, but likewiſe all ſuch internal operations, as are apt too much to agitate and waſte the ſpirits. He only retains digeſtion and reſpiration, that is to ſay, that all motion, prejudicial to his ſtrength, is ſuſpended; and the motion proper to renew it is ſolely and freely exerciſed. This repoſe, which returns like an inchantment every night, ſeizes us, while the darkneſs prevents all work. Who has contrived this ſuſpenſion? Who has ſo juſtly choſen the operations proper to continue it? Or, who has, with ſuch nice diſcernment, excluded thoſe which might interrupt it? The next morning all paſt fatigues appear, as it were, vaniſhed and forgot. The animal labours, as if he had never been buſy; and this refreſhment of ſleep gives him a new vivacity to undergo freſh toil. The nerves are full of ſpirits, the muſcles are flexible, and the ſkin remains firm; though one would think it ſhould be worn. The living body of an animal ſoon conſumes inanimate bodies, even the moſt ſolid of thoſe around it, without being waſted itſelf. A horſe wears out ſeveral

ſaddles. The fleſh of an infant, though ſo delicate and tender, wears out many cloths; while it daily gathers ſtrength. Were this renovation perfect, it would be immortality, and the gift of eternal youth. But, as it is otherwiſe, the animal inſenſibly loſes his ſtrength, and grows old; becauſe all that is created muſt carry the marks of that nothing from whence it ſprung, and conſequently have a period.

XXVI.

Of GENERATION.

WHAT can be more ſurpriſing, than the multiplication of animals! Regard the individuals, no creature is immortal. Every thing grows old, paſſes away, diſappears, and is no more: regard the ſpecies, all ſubſiſts, is permanent and immutable; though in a continual viciſſitude. Since there lived in the world men careful to preſerve the memory of events, we have ſeen neither lions, tygers, bears, or wild boars, produced by chance in the caves or foreſts. Nor do we behold any fortuitous productions of dogs or cats. Neither oxen, nor ſheep, are ſpontaneouſly produced in the ſtalls or paſturages. Each of theſe animals owes its birth to a certain male, and a certain female of its own kind.

ALL theſe different ſpecies preſerve themſelves much in the ſame ſtate, for ſo many ages. We do not, for three thouſand years, find any one kind is loſt; nor, on the other hand, do we ſee any ſort multiplied to an exceſs incommodious to others. If the lions, bears, and tygers, ſhould increaſe to a certain degree, they would deſtroy all the deer, goats, ſheep, and oxen; they would even grow too ſtrong for humankind, and depopulate the earth. Who has taken ſuch juſt meaſures, that neither each ſpecies ſhould be extinguiſhed, nor yet ſuffered to multiply too much?

But, in truth, this continual propagation of each ſpecies is a wonder, to which we are too much accuſtomed. What ſhould we think of a watchmaker, who poſſeſſed the art of making watches, which of themſelves ſhould produce new watches without end? So that the two firſt watches ſhould be ſufficient to multiply and perpetuate the kind over all the earth? What ſhould we ſay of an architect, if he knew how to make houſes that ſhould of themſelves make other houſes, to renew a habitation for men, before they were ready to fall into decay? This is what we ſee amongſt animals. They are not, if you pleaſe, mere machines, like watches. But, in fact, the author of theſe machines has placed within them

ſomething to re-produce their ſpecies for ever, by the aſſemblage of the two ſexes Say, as much as you think proper, that this generation of animals is effected by molds, or by an expreſs configuration of each individual; which ever of the two ſides you take, you will gain nothing; and the art of the workman will equally appear. If you ſuppoſe, that, at each generation, the individual, without any mold, has an expreſs configuration of the parts; I aſk, who is it directs the configuration of ſo compoſed a machine, which diſcovers ſuch infinite addreſs? If, on the contrary, to exclude all art, you ſuppoſe the whole effected by molds; I demand, who prepared theſe molds? They are indeed more wonderful than the machines they would hatch from them.

Let us then ſuppoſe theſe molds in animals, which lived four thouſand years ago; and let them, if they will, affirm, that they were ſo incloſed in each other without end, that theſe were not only ſufficient to furniſh the generations of the four thouſand years, but enough remaining ready for the formation of all the animals neceſſary to preſerve the ſpecies to the end of all ages. Theſe molds, which by their configuration contain the exact ſhape of the animal (as I have already obſerved), are as difficult to be explained,

as the animals themſelves. But the doctrine of molds is attended with yet more inexplicable wonders. At leaſt the configuration of each animal in particular requires only as much power and art, as is neceſſary to ſet a-going all the ſprings, which compoſe this machine. But, by ſuppoſing molds, we muſt, *1ſt*, affirm, That each mold contains in miniature, by an inconceivable delicacy, all the ſprings of the ſame machine. Now, there is greater art to form ſo compound a work, in ſo minute a compaſs, than to make one larger. *2dly*, We muſt ſay, that each mold, which is an individual ready prepared for a firſt generation, diſtinctly contains in itſelf other molds incloſed within each other without end, for all poſſible generations which may happen in the courſe of all ſucceeding ages. What can be more ſurpriſing, or wiſe in point of art, than this ordinance of an infinite number of individuals, all beforehand ſhut up in one, from whence they are to iſſue? The molds, then, are of no uſe to explain the ſucceſſive generation of animals, without a neceſſity of acknowleging ſome ſuperior ſkill. On the contrary, they ſhew a greater addreſs, and a more aſtoniſhing compoſition.

WHAT is manifeſt and inconteſtable, independently of all ſyſtems of philoſophy, is, that the fortuitous concourſe of atoms never yet

produced, without generation, in any part of the earth, either lions, tygers, bears, elephants, ſtags, ſheep, oxen, cats, dogs, or horſes. Theſe are only produced from a copulation between their own kind. The two animals, which produce a third, are not the real authors of the art which diſplays itſelf in the creature ingendered by them. Far from having the ſkill to effect it, they are quite ignorant how the work is compoſed, which proceeds from their generation. They do not know one ſingle ſpring of it. They are, in this caſe, only blind involuntary inſtruments, applied to the execution of a wonderful art, which is abſolutely ſtrange and unknown to them. Whence do they derive ſuch a ſurpriſing ſkill, which is certainly not their own? What power, what wiſdom, knows how to employ, for works of ſo ingenious a ſtructure, inſtruments ſo incapable of knowing what they do, or of having the leaſt foreſight of it? It is needleſs to imagine, that beaſts have knowlege. But grant them as much as you pleaſe in other things, at leaſt you muſt own, that in generation they have no part in the ſkill, which diſplays itſelf in the animals they produce.

Let us even go farther, and allow all that is related moſt wonderful of the ſkill of animals. Let us admire, as much as you pleaſe, the certain-

ty with which a dog takes a third way, when he finds by his ſcent that the beaſt he is in purſuit of has left no marks in the two firſt. Let us wonder at the hind, which (as they ſay) leaves her little fawn in ſome concealed place, that the dogs may not diſcover it by the ſmell of her track. Let us view even the ſpider, who by her web lays ſubtle ſnares for the flies, to fetter and ſurpriſe them, before they can diſengage themſelves. Let us remark the artifice of the heron, who hides her bill beneath her wing, in order the ſurer to ſtrike whatever bird of prey ſhall attack it. Let us grant all theſe ſurpriſing facts. All nature is full of prodigies. But what are we to conclude from thence? If we ſeriouſly reflect, we ſhall find they prove too much. Shall we aſſert, that the beaſts have more reaſon than us? Their inſtinct has, no doubt, more certainty, than our conjectures: they never ſtudied logic, or geometry: they have no method, no ſcience, no cultivation. What they do, they do without conſideration or forethought. They do it at once, without deliberating about the matter. Men, after reaſoning together, daily find themſelves miſtaken: as for the beaſts, without reaſoning, they daily execute what demands the exacteſt choice and proportion. Their inſtinct is in many caſes infallible. But this inſtinct is only a fine name, without meaning. For, what can we underſtand by an

inſtinct more juſt, more preciſe, and more certain, than reaſon itſelf; unleſs a more perfect reaſon? We muſt therefore diſcover this wonderful reaſon, either in the work, or the workman; either in the machine, or the compoſer. For example, when I ſee, in a watch, an exactneſs in pointing out the hours, which ſurpaſſes my knowlege; I conclude, that if the watch does not reaſon, it muſt have been made by an artiſt, who knew how to reaſon this way better than I. The caſe is juſt the ſame, when I ſee beaſts, which every hour do things, in which appears a ſkill ſuperior to mine; I immediately conclude, that this ſurpriſing art muſt neceſſarily lie, either in the machine, or the hand who made it. Does it reſide in the animal itſelf? What appearance is there, that a creature ſhould be wiſe and infallible, in certain points? If it is not in him, it muſt be in the great workman; as all the art of a watch lies in the head of the watch-maker.

XXVII.

Some faults, which the beaſts commit, do not prevent their inſtinct being infallible in many things.

IT is to no purpoſe to object, that the inſtinct of beaſts is defective in certain points. It is no

way ſurpriſing, that beaſts ſhould not be infallible in every thing; but it is truly ſo, that they ſhould have this quality in ſome caſes. Were they infallible in all things, their reaſon would be infinitely perfect; they would be ſo many divinities. In the works of an infinite power, there can be only a finite degree of perfection; otherwiſe, God would make creatures like himſelf, which were an impoſſibility. He therefore can only impart a limited degree of perfection, and conſequently of reaſon, to his works. This limitation is then no proof, that the work is void of order and reaſon. Becauſe I am ſome-times deceived, it does not follow, that I am not always rational, and that every thing paſſes within me by mere chance. All that can be inferred, is, that my reaſon is bounded and imperfect. Juſt in the ſame manner, becauſe a beaſt is not infallible in every caſe by its inſtinct, though it be ſo in many, we are not to conclude the machine is irrational. It only follows, that its reaſon is limited. But, in ſhort, the fact is undeniable; to wit, that the operations of this machine diſcover a regular conduct, a ſurpriſing art, and a wiſdom, which in ſome caſes, and within certain bounds, approaches infallibility. To whom ſhall we aſcribe all this? To the work, or its author?

XXVIII.

The impoſſibility of beaſts having a ſoul.

IF you ſay, that beaſts have ſouls different from their bodies; I would aſk you, of what nature are theſe ſouls intirely different from their bodies, though attached to them? Who is it has had the art of uniting ſuch different natures? Who is it claims ſo abſolute an empire over thoſe different natures, as to form, in ſo regular a ſociety, one ſo conſtant, and where the correſpondence is ſo immediate?

IF, on the contrary, you ſay, that the ſame matter thinks, and at other times is incapable of thought, according to the different configuration and arrangement of the parts which can be given it; I will not affirm here, that matter cannot think; and that it is impoſſible to conceive, that the parts of a ſtone can ever, without ſome additional help, know themſelves, whatever degree of motion or form you give them. At preſent, I content myſelf to aſk you, in what conſiſts this preciſe arrangement and configuration of the parts, which you allege? According to your ſcheme, there muſt be a degree of motion, wherein matter does not yet reaſon; and then another degree

of the ſame kind, in which at once it begins to reaſon, and know itſelf. Who is he who has known how to chuſe this exact degree of motion? Who has diſcovered the line, in which the parts ſhould move? Who has taken the neceſſary meaſures to find preciſely the ſize and figure each part ought to have, to preſerve the proportions between themſelves in the whole? Who has regulated the external figure, by which theſe bodies are to be limited? In ſhort, who has diſcovered all the combinations in which matter is capable of thought; and of which if you retrench the ſmalleſt, it muſt ceaſe to think? If you ſay, all this is owing to chance; I anſwer, you make this chance then ſo wiſe, as to be the ſource of reaſon itſelf. Unaccountable prejudice! not to acknowlege a moſt intelligent cauſe, the ſpring of all our knowlege; but rather chuſe to ſay, that the pureſt reaſon is an effect of the moſt blind of all cauſes, in a ſubject ſuch as matter, of itſelf incapable of all reflection. In reality, there is nothing it is not better to admit, than to aſſert things ſo groundleſs and unwarrantable.

XXIX.

The ſentiments of ſome antient philoſophers, with regard to the ſoul and knowlege of beaſts.

THE philóſophy of the antients, though very imperfect, was however aware of this inconvenience. It therefore maintained there was a divine ſpirit diffuſed through the univerſe; a kind of ſupreme wiſdom, which acted inceſſantly through all nature, and eſpecially in animals, as ſouls act upon the body. They thought this continual impreſſion of the divine ſpirit, which the vulgar term inſtinct (without underſtanding the true ſenſe of the term), was the life or ſoul of every thing that lives. They added, that theſe ſparks of the divine ſpirit were the principle of all generation; that animals received them in their conception, and at their birth; and that, at the moment of their death, theſe divine particles detached themſelves from all terreſtrial matter, to fly away to the heavens, where they inrolled themſelves in the number of the ſtars. It is this philoſophy, at once ſo magnificent and fabulous, that *Virgil* ſo gracefully expreſſes, in theſe verſes on the bees; where he ſays, "That all the wonders we admire in "them have made ſeveral aſſert, that they were "animated by a divine breath, and by a portion

" of the deity. This aroſe from the perſuaſion " men then had, that God filled the earth, the " ſea, and the heavens; that from him beaſts and " men received life at coming into the world; and " that to him all things go back and return, when " they come to a diſſolution; becauſe the ſouls " (which are the principle of life), far from be- " ing annihilated by death, aſcend to eſtabliſh " their reſidence in heaven, and increaſe the " number of the ſtars *."

Induc'd by ſuch examples, ſome have taught,
That bees have portions of ethereal thought,
Endu'd with particles of heav'nly fires:
For God the whole created maſs inſpires: [throws
Thro' heav'n and earth, and ocean's depth, he
His influence round; and kindles as he goes.
Hence flocks, and herds, and men, and beaſts, and fowls,
With breath are quicken'd; and attract their ſouls.

* *Eſſe apibus partem divinae mentis, et hauſtus*
Æthereos dixere; Deum namque ire per omnes
Terraſque, tractuſque maris, cœlumque profundum,
Hinc pecudes, armenta, viros, genus omne ferarum,
Quemque ſibi tenues naſcentem arceſſere vitas.
Scilicet huc reddi deinde, ac revoluta referri
Omnia, nec morti eſſe locum, ſed viva volare
Sideris in numerum, atque alto ſuccedere cœlo.
VIRGIL. Georg. *Lib.* IV.

Hence take the forms his preſcience did ordain,
And into him at length reſolve again.
No room is left for death: they mount the ſky,
And to their own congenial planets fly.

DRYDEN.

THIS divine wiſdom, which moves all the known parts of the univerſe, ſo ſtruck the *Stoics*, and *Plato*, before them, that they believed the whole world was an animal; but an animal rational, philoſophical, wiſe; in ſhort, the *ſupreme* GOD. This philoſophy reduced the multiplicity of deities to one alone; and this ſole being, they called *natural*: aſcribing to it eternity, infallibility, intelligence, omnipotence, and divinity. Thus the *philoſophers*, by endeavouring to follow a different ſyſtem from the *poets*, relapſed into all the poetical fables. They aſſigned, like theſe imaginary writers, an art, and a deſign, to all the parts of the univerſe, even thoſe which appeared the moſt inanimate. Without doubt, they were ſenſible of the art there is in nature; and were only miſtaken, in aſcribing to the work itſelf the wiſdom of the author.

XXX.

Of MAN.

LET us ſtop no longer at animals inferior to man. It is time to examine the bottom of man himſelf, in order to diſcover in him that POWER, whoſe *image* he is ſaid to be. I do not know, in all nature, but two ſorts of beings; thoſe which have knowlege and reflection, and thoſe which are deſtitute of theſe. Theſe two ways of exiſtence are united in man. He has a *body* like thoſe corporeal beings, which are moſt inanimated; and he has a ſoul, that is to ſay, a *thinking part*, by which he knows himſelf, and perceives the objects round him. If it be true, that there is a *firſt being*, who created all others out of nothing, *man* is truly his *image*: for, like him, he unites in his nature all the real perfection there is in theſe two different manners of exiſtence. But an image is but an image, and can only be a ſhadow of the true perfect being.

LET us begin the ſurvey of man, by the conſideration of his body. *I do not koow* (ſays a mother to her children in holy writ §) *how you*

§ 2 Maccabees vii. 22.

are formed in my womb. In effect, it is no wiſdom of the parents, which produces ſo compoſed and regular a work. They have no ſhare in this miracle. Let us then leave them, to carry our views higher.

XXXI.

Of the STRUCTURE *of the human body.*

OUR body is kneaded of clay; but let us admire the hand which has faſhioned it. The ſeal of the divine workman is imprinted on his work. He ſeems to have produced a maſter-piece from ſuch baſe materials. Let us caſt our eyes on this body, where the bones ſupport the fleſh which covers them. The nerves, which are braced through the body, give it all its ſtrength; and the muſcles, through which they are interwoven, by dilating or contracting themſelves, form the moſt juſt and regular movements. The bones are ſeparated at proper diſtances, by joints, which are inſerted into each other, and faſtened by nerves or tendons. *Cicero* juſtly admires the beautiful ſtructure of theſe ligaments. What can be more pliant for all the various motions of the body? Yet what more firm or durable? Even after a body is dead, and the parts are ſeparated by corruption, we ſtill ſee theſe joints and

ligaments, which with difficulty yield to diſſolution. Thus this machine of ours becomes ſtrait or bent, ſtiff or pliable, as we will. From the brain, which is the ſpring of all the nerves, flow the animal ſpirits. Theſe are ſo ſubtile, that they cannot be ſeen: yet they are ſo real and ſo active in their operations, that to them we owe all our ſtrength and motion. Theſe ſpirits in a moment are conveyed to the extremities of the body. Sometimes they flow gently and regularly. At others, as there is occaſion, they have a diſorderly impetuoſity; and they vary without end the poſtures, geſture, and other actions of the body.

XXXII.

Of the SKIN.

LET us take a view of this fleſh. It is covered in certain places with a tender and delicate ſkin, for the ornament of the body. If the ſkin, which renders the object ſo agreeable, and of ſuch a ſweet colour, was removed; the object would grow hideous, and ſtrike us with horror. In other parts, the ſame ſkin is more thick, and harder, to reſiſt the fatigue of thoſe parts. For inſtance, how much coarſer is the ſkin on the ſoles of the feet, than that on the face! That on

the hind-part of the head, than that of the fore-head! This ſkin is all perforated like a ſieve. But theſe holes, which we call pores, are imperceptible. Though the ſweat and tranſpiration are performed through them; the blood never eſcapes that way. This ſkin has all the delicacy neceſſary to be tranſparent, and to give the countenance a lively, mild, and agreeable complexion. If the ſkin were leſs cloſe or ſmooth, the viſage would appear, as it were, bloody or flayed. Who has had the art to temper and mix theſe colours, to make ſo fine a *carnation*, or fleſh-colour, which the painters admire; but can never perfectly imitate?

XXXIII.

Of the VEINS *and* ARTERIES.

WE find this body of ours interſperſed with numberleſs branches or canals. The one ſort carry the blood from the centre to the extremities of the body, and are called *Arteries;* the others bring it back from the extremities to the centre, and are termed *veins*. Through theſe different chanels runs the *blood*, a ſoft unctuous liquor, proper by its oily quality to retain the fineſt ſpirits, juſt as we preſerve in reſinous bodies the moſt ſubtile and ſpirituous eſſences. This

blood waters the fleſh, as the fountains and rivers do the earth. After being filtrated through the muſcles, it returns to its ſource more ſlowly, and leſs impregnated with ſpirits; but it renews and refines itſelf anew in this ſource, to circulate without end.

XXXIV.

Of the BONES, *and their arrangement.*

BEHOLD this aſſemblage and proportion of the human members. The legs and thighs conſiſt of large bones, firmly jointed in each other, and ſecured by nerves. Theſe form two kinds of equal and regular pillars, which riſe to ſupport the whole fabric. But theſe pillars are flexible, and the pan of the knee is a bone, of a ſhape almoſt circular, which is expreſly placed in the joint to fill it up, and defend it, when the bones yield to bend the knee. Each pillar has its pedeſtal compoſed of pieces of inlaid work, ſo nicely joined together, that they can grow pliant or ſtiff, as occaſion requires. This pedeſtal turns as we will beneath its column. The foot (which performs this part) is compoſed ſolely of nerves, tendons, and ſmall bones, ſtreightly interlaced together, that this part may be more flexible or firm, according to our different wants. Even

the toes of the feet, with their articulations and nails, ſerve to feel the ground we tread upon to ſupport us with more addreſs and agility; and to preſerve better the equilibrium of the body, either in riſing or ſtooping. The two feet extend forward to hinder the body from falling on that ſide, when it bends or turns itſelf. The two pillars reunite above, to ſuſtain the reſt of the body; and in this part they are broken off, that man may have the conveniency of repoſing himſelf, by reſting on the two largeſt muſcles of all the body.

The middle of the edifice is proportioned to the height of the columns. It contains all the parts neceſſary to life, and which conſequently ought to be ſeated in the centre. For this reaſon, two rows of ribs pretty cloſely joined ariſing from the back-bone (as the branches of a tree ſpring from the trunk) form a kind of circle to hide and ſhelter theſe more delicate and noble parts. But, as theſe ribs could not intirely incloſe the centre of the human body, without hindering the dilatation of the ſtomach and bowels, they end their circle at a certain point; beneath which they leave a void, that the inward parts may inlarge themſelves with eaſe, both for reſpiration and nouriſhment.

As for the back-bone, we ſee nothing in all the works of art, wrought with ſuch ſkill. Were it compoſed of one ſingle bone, it would be too ſtiff and frangible. In this caſe, men could never ſtoop. To remedy this inconveniency, the author of this machine has formed a ſett of joints, called *Vertebræ*; which, being inſerted into each other, form a piece of inlaid work, which is ſtronger than if it were one ſolid piece. This compound is ſometimes pliant, at others ſtiff. It changes its motion in a moment, as we will. All theſe *Vertebrae* have in the middle an aperture, which ſerves to receive and convey an extenſion of the ſubſtance of the brain * to the extremities of the body, and to ſend the animal ſpirits more ſpeedily by this canal.

BUT how muſt we admire the nature of the bones themſelves? They are extreme hard, and we ſee, that the corruption of the reſt of the body produces little alteration in them. Yet they are full of innumerable holes, which render them more light; and even their middle contains a marrow, to nouriſh them. Yet they are thus bored exactly in thoſe places, through which the ligaments paſs, which bind them together. Be-

* The *Medulla Spinalis*.

ſides, the extremities are always larger than their middle; and compoſe, as it were, two round heads, to make one bone more eaſily ply with the other, that the whole may be moved without pain.

XXXV.

Of the Organs.

WITHIN the incloſure of the ribs are ranged in order the grand organs, ſuch as ſerve for the office of reſpiration or breathing, thoſe which digeſt our aliments, and thoſe which produce new blood. Reſpiration is neceſſary to temper the internal heat cauſed by the effervescence of the blood, and the impetuous courſe of the animal ſpirits. The air is like a kind of nouriſhment to us, by which man is revived every moment of his life. Digeſtion is no leſs neceſſary, to prepare the groſs aliments for being turned into blood. The blood is a liquor ſuited to inſinuate itſelf every-where; and to thicken in the extreme parts into fleſh, to repair in thoſe members what they loſe inceſſantly by perſpiration, and the diſſipation of the ſpirits. The lungs reſemble large covers, which, being of a ſpongy nature, eaſily dilate and compreſs themſelves; and as they receive and return inceſſantly a great

deal of air, by this reciprocal motion they perform the office of a pair of bellows. The ſtomach has a diſſolvent in it, which cauſes hunger, and puts man in mind when to take his neceſſary food. This diſſolvent, which ſtimulates the ſtomach, by this uneaſineſs prepares it a lively pleaſure, when it is appeaſed by food. Then man deliciouſly regales himſelf, in a ſtrange manner; which would give him horror, if he could ſee his food, once it was introduced into the ſtomach, and which even diſpleaſes him, when he has eat too much. The ſtomach is made like a bag. There the aliments, changed by a ſpeedy coction, are all blended into a mild liquor; which afterwards becomes a kind of milk, called *Chyle*. This, being conveyed to the heart, receives by the abundance of the ſpirits, the form, vivacity, and colour of blood. But while the pureſt juices of the aliments paſs from the ſtomach into the canals deſtined to refine it into chyle and blood; the groſſer parts of theſe ſame aliments are ſeparated (as the bran is from the flour by a ſieve), and forced downward, to be voided by the moſt ſecret paſſages of the body, that they may not incommode us. Thus the wonders of this human machine are ſo great, that we find them inexhauſtible, even in the moſt humbling functions; ſuch as will not admit a clearer explanation.

XXXVI.

Of the INTERNAL PARTS.

IT muſt be confeſſed, the internal parts of the human body are not ſo agreeable to the ſight, as the external. But at the ſame time we may obſerve, they were not made to be ſeen. It was even neceſſary, according to the rules of wiſdom, that they ſhould not be diſcovered without horror. By this means, one man cannot open the body of another, without extreme repugnance. This horror it is, which excites compaſſion and humanity in our heart, when we ſee another perſon wounded. Let us add, with St. *Auguſtine*, "That there is in theſe internal parts a proportion, an order, and a ſkill, which charms the "attentive mind infinitely more, than that external beauty, which only pleaſes the eyes of "the body." This inſide of man, which is at once ſo frightful and admirable, is preciſely what it ought to be, to ſhew a piece of clay wrought by a divine hand. It diſcovers at once the weakneſs of the *creature*, and the wiſdom of the *Creator*.

XXXVII.

Of the ARMS, *and their uſe.*

IN the upper part of this curious fabric we have been deſcribing, hang the two arms; which are terminated by hands, which have a perfect ſymmetry with each other. Theſe arms are faſtened to the ſhoulders, in ſuch a manner, that they have a free motion with this inſertion. They have alſo new joints, at the elbow and wriſt; that they may extend or contract themſelves with readineſs. They are of a juſt length, to reach all the parts of the body. They are nervous, and full of muſcles, that they may with the reins be frequently in action, and ſuſtain the greateſt fatigues of the body. The hands are an aſſemblage of nerves, and ſmall bones, enchaſed the one within the other. Theſe have all the ſtrength and flexibility neceſſary to feel external bodies, to ſeize them, to faſten on them, to diſtinguiſh them, to ſeparate them one from another, or to force them back. The fingers, whoſe ends are armed with nails, are made to exerciſe, by the delicacy and variety of their motions, the nobleſt and moſt wonderful arts. The arms and hand, as they are extended or contracted, ſerve to aſſiſt the body to incline or bend, without endanger-

ing its fall. This machine has in itſelf, independently of ſuch reflections as come too late, a kind of ſpring, which ſuddenly ſecures its equilibrium on all theſe different occaſions.

XXXVIII.

Of the NECK *and* HEAD.

ABOVE the body riſes the neck, firm or flexible, as there is occaſion. Has one any heavy burden to carry on the head? The neck becomes ſtiff, as if it was one ſingle bone. Is it neceſſary to bend or turn the head? The neck becomes pliant in all ſhapes, as if the bones were all looſened. This neck, moderately raiſed above the ſhoulders, eaſily ſuſtains the head; which rules over the reſt of the body. Were the head leſs, it would have no propörtion to the reſt of the machine. If it were larger, beſides its being diſproportionate and deformed, its weight would overload the neck; and expoſe man to the perpetual danger of falling, to which ever ſide he ſhould lean. The head, ſtrengthened on all ſides by very thick and very ſolid bones, the better to ſecure the precious treaſure it contains, is jointed in the *vertebrae* of the neck, and has a quick communication, by that, with the other parts of the body. It contains the brain, a moiſt, ſoft, ſpongy

ſubſtance, compoſed of tender threads interwoven. This is the centre of theſe wonders we ſhall ſpeak of in the ſequel. The ſkull is regularly bored with an exact ſymmetry and proportion, for the two eyes, the two ears, the mouth, and the noſe. There are nerves appointed for the ſenſations felt in moſt of theſe paſſages. The noſe, which has no nerves of this kind, has a cribriform bone, by which it admits ſmells and odours into the brain. Amongſt theſe organs of ſenſe, the principal are double, to preſerve on one ſide what ſome accident might deſtroy on the other. The two organs belonging to the ſame ſenſe are placed in ſymmetry in the front of the face, or on the ſides, that man may make a more eaſy uſe of them; either to the right or left, or before him; that is to ſay, towards the place he directs his motions and actions. Beſides, by the flexibility of the neck, all theſe organs are turned in a moment, whichever ſide you pleaſe. The back of the head, which is the leaſt in a condition to defend itſelf, is the thickeſt. It is adorned with hair, which ſerves at the ſame time to preſerve it from the injuries of the weather. And this hair, coming round the viſage, gives it an additional grace. The face is what we call the fore-part of the head, where the principal features are aſſembled with a beautiful order and proportion; unleſs ſome accident alters ſo regular a work. The two eyes

are equal, placed towards the middle on each ſide of the head, that they may more eaſily diſcover diſtant objects to the right or left, and commodiouſly watch over the ſafety of all the parts of the body. The exact harmony with which theſe are placed, makes the chief ornament of the face. Their great author has illuminated them with a kind of celeſtial luſtre, to which nothing is comparable. Theſe eyes are a kind of mirrors; where are painted by turns, and without confuſion, in the bottom of the *retina*, all the objects of the whole world, in order to their being conveyed to the mind. But, though we perceive all objects by a double organ, we never ſee the objects themſelves double; becauſe the two leading nerves, which ſerve for ſight, are only two branches, which reunite in one ſtem, as the two bows of a ſpectacle are joined in the upper part. The two eyes are ſet off with two ſimilar eye-brows; and, that they may open and ſhut more eaſily, they are covered with eye-lids, edged with hair, to defend ſo delicate a part.

XXXIX.

Of the FOREHEAD, *and other parts of the body.*

THE forehead adds a grace and majeſty to the whole countenance. Without the noſe placed

in the middle, the face would be flat and misſhapen. We may judge of this, by thoſe who have been ſo unhappy, as to have this member mutilated. It is placed immediately above the mouth, to diſcern conveniently, by the ſmell, what is proper food for man. The two noſtrils ſerve at once for the reſpiration and ſmell. Regard the lips: their lively colour, freſhneſs, figure, arrangement, and their proportion to the other features, embelliſh all the face. The mouth, by the correſpondence of its motions with thoſe of the eyes, animates, enlivens, ſaddens, ſweetens, or troubles us; and expreſſes each paſſion by ſenſible marks. Beſides the uſefulneſs of the lips in receiving food by their pliancy, and the variety of their motions, they aſſiſt in varying the ſounds, which produce ſpeech. When they open, they diſcover a double row of teeth; which adorn the mouth. Theſe teeth conſiſt of ſmall bones, regularly enchaſed in two jaws; which have one ſpring to open, and another to ſhut: ſo that the teeth, like a mill, grind the food, to prepare it for digeſtion. But theſe aliments, ſo macerated, paſs into the ſtomach by a different canal, than that allotted for reſpiration; and theſe canals, though ſo nearly joined together, have nothing in common with each other.

XL.

Of the TONGUE, *and the* TEETH.

THE tongue is a compoſition of ſmall muſcles, and nerves ſo pliable, that it winds like a ſerpent, with an inconceivable agility and pliancy. It does in the mouth, what the fingers or bow of a maſter on ſome muſical inſtrument produce. It ſometimes ſtrikes the teeth, ſometimes the palate. There is a pipe §, which runs within the throat, from the palate to the breaſt. It is compoſed of rings of cartilages, exactly enchaſed in one another; and furniſhed within with a very ſmooth tunicle or membrane, the better to aſſiſt the ſound of the air iſſuing from the lungs. This pipe has towards the palate an end, which is open like a flute, by a ſlit; which widens, or contracts itſelf purpoſely, to deepen the voice, or render it more clear. But, leſt the aliments, which have their ſeparate canal, ſhould ſlip into this organ of reſpiration, there is a kind of ſucker, which forms on the orifice of this canal of the voice a ſort of draw-bridge, to let the aliments paſs over; without ſuffering the leaſt particle, or the ſmalleſt drop, to fall into the ſlit juſt mentioned. This ſucker is very moveable, and turns with great pliancy; ſo that, by its vibrati-

§ The wind-pipe.

ons on the ſaid orifice, it forms the ſofteſt modulations of the voice. This ſlight example is ſufficient to ſhew by the way, without entering into any anatomical detail, with what marvellous art the internal parts of man are compoſed! The organ I have juſt now deſcribed, is the moſt perfect of all muſical inſtruments, which are only themſelves perfect, as far as they can imitate it.

XLI.

Of the SMELL, *the* TASTE, *and* HEARING.

WHO can explain the delicacy of thoſe organs, by which we diſcern the innumerable taſtes and ſmells of bodies? Or how happens it, that ſo many voices ſtrike my ears at once without confuſion, and that theſe ſounds, after they are gone off, leave on me ſuch diſtinct and lively impreſſions? How carefully has the great author of our frame given the eyes a humid and moveable cover to cloſe them; and, at the ſame time, left our ears open! "It is (ſays *Cicero*), becauſe the "eyes have need to ſhut themſelves up from the "light, for ſleep; and becauſe the ears ſhould "remain open, while the eyes are cloſed; to warn "or waken us by the noiſe, when we run any "riſque of being ſurpriſed." Who is it imprints in my eye, in a moment, the heavens, the ſea,

and the earth; all ſituated at ſuch an infinite diſtance? In what manner became arranged and diſtinguiſhed in ſo ſmall an organ the faithful images of all the objects in the univerſe, from the ſun to the minuteſt atom? Is not the ſubſtance of the brain, which preſerves with ſuch order the genuine images of ſo many objects, which have ſtruck us ſince we came into the world, an aſtoniſhing prodigy? We juſtly admire the invention of books, in which are preſerved ſo many actions, and ſuch a collection of reflections. But what compariſon is there between the fineſt book, and the brain of a learned man? Without doubt, the latter is infinitely the moſt precious treaſure, and of a nobler invention than the book. It is in this little conſervatory, that we find, at call, all the ideas or images we have occaſion for. We call them; they come: we diſmiſs them; they hide themſelves, I know not where; and diſappear, to give place to others. We ſhut and open the imagination, like a book. We turn over the leaves, as it were, and ſuddenly paſs from one end to the other. Our memory even affords us a table or index, to mark the places, where our moſt ſecret ideas lie concealed. The numberleſs characters, which the human mind internally runs over with ſuch rapidity, leave no trace in the brain of a man dead. This admirable book becomes then only a ſoft ſubſtance, a kind of clew

or bottom, formed of tender fibres interwoven. What power has known how to lodge, in ſo unſightly a kind of clay, ſuch precious ideas, ranged with ſuch beautiful art?

XLII.

Of the proportion of the HUMAN BODY.

SUCH is the body of man, in general: I do not pretend to enter into the particulars of anatomy, all my deſign being to diſcover the wiſdom which is in nature, by a ſingle view, without any ſeries of reflections. The human body might, no doubt, have been formed much greater, or much leſs. If man, for example, was but a foot high, he would be inſulted by the moſt part of animals, who would tread him under their feet. Were he as tall as the higheſt ſteeples, a ſmall number of men would in a few days conſume all the proviſions of a country. He would neither find horſes, or other beaſts of burden, to carry him; nor any carriage fit for him. He would want materials ſufficient to build houſes proportioned to his ſtature. The earth would be but ill-peopled; and even the few inhabitants would be deſtitute of moſt conveniencies. Who has confined the ſize of man to a certain meaſure? Who has regulated the ſtature of all other animals, in

proportion to that of man? Man is the only creature who walks erect. This gives him an air of dignity and majeſty, which diſtinguiſhes even his external form from every other animated being. Not only his figure is more noble, but he is the ſtrongeſt and moſt dextrous of all animals, in proportion to his bulk. Let us examine narrowly the maſs and weight of the moſt formidable beaſts. We ſhall find more matter, than in the body of a man; and yet a vigorous man has more real ſtrength, than moſt of theſe wild beaſts. They are only dangerous by their teeth and claws. But man, who is unprovided with ſuch ſtrong natural arms, has hands; whoſe ſkill in forging arms ſurpaſſes all that nature has given to the brutes. Thus he pierces with his arrows, or enſnares in his toils, the ſtrongeſt and moſt furious animals. He even knows how to tame them in their captivity, and to accommodate them to his pleaſure. He cauſes himſelf to be careſſed by lions and tygers; and rides on the backs of elephants.

XLIII.

Of the SOUL. *She alone is endowed with the privileges of reflection and thought.*

THOUGH the body of man appears the maſter-piece of nature, it is not comparable to his

mind. It is certain, there are bodies incapable of thought. This faculty was never yet aſcribed to ſtones, woods, or metals; though they are undoubtedly bodies. It is even ſo natural to believe, that matter cannot think, that the moſt unprejudiced men cannot forbear laughing, when you tell them, that beaſts are only mere machines; becauſe they think it impoſſible to conceive, that mere machines could have the knowlege they diſcover in beaſts. They ſee, that to aſcribe intelligence to ſuch machines, is acting like children; who, in their play, talk to their babies, as if they underſtood them. Hence it comes, that the ancients themſelves, who allowed nothing for real, but what was corporeal; yet were willing to grant the ſoul of man to be compoſed of a fifth element, or a kind of nameleſs quint-eſſence, unknown below, indiviſible, immoveable, and intirely celeſtial and divine; becauſe they could not conceive, that the terreſtrial matter of our four elements was capable of thought §.

§ Ariſtoteles *quintam quandam naturam eſſe, e qua ſit mens. Cogitare enim, et providere, et diſcere, et docere .... in horum quatuor generum nullo ineſſe putat. Quintum genus adhibet vacans nomine.*

CICERO, *Tuſcul. Quaeſt.* Lib. I.

XLIV.

What is material, cannot think.

BUT let us grant the ancients all they would have, and conteſt with none of their ſects in philoſophy. I will offer an alternative, which no philoſopher can avoid. Either matter may become endowed with reflection, without adding any thing to it; or elſe matter is incapable of thought; and that which reflects within us, is a being diſtinguiſhed from matter, though united to it. If matter can become reflective without any addition, we muſt own, that all matter has not this quality; and that even the matter which thinks now, was void of thought fifty years ago. For inſtance, the ſubſtance of the body of a young man had no knowlege, ten years before his birth. We muſt then ſay, that matter may acquire reflection, by a certain arrangement or motion of its parts. Let us take, for example, a ſtone, or a heap of ſand. Theſe portions of matter, certainly, do not think. To give them this faculty, you muſt figure, diſpoſe, and move their parts in a certain proportion and degree. Who has ſo nicely diſcovered this proportion, this arrangement and motion, in ſuch a ſenſe, and not in another? And has adjuſted this motion to a preciſe

point, above or beneath which matter can never think? Who has given all theſe juſt and exact modifications to a vile and ſhapeleſs piece of matter; to form thence the body of an infant, which, in time, ſhall become a reaſonable man? If, on the contrary, you aſſert, that matter cannot think, without ſome addition, and requires for this end to be united to a foreign being; I aſk, in return, what is this other thinking exiſtence, while the matter united to it remains only capable of motion? Here are two natures quite unreſembling. The *one* we know only by its actions, and local motions: The *other*, by its perceptions and reaſonings. The *one* gives you no *idea* of the other; nor have their ideas any thing common with each other.

XLV.

Of the union of the ſoul and the body, of which GOD *alone can be the author.*

WHENCE happens it, that beings ſo oppoſite, are ſo intimately united in man? To what ſhall we aſcribe it, that the movements of the body ſo ſpeedily and infallibly communicate certain thoughts to the ſoul? As, on the other hand, the reflections of the ſoul produce equal motions in the body? Whence proceeds ſo regular a ſociety

of ſeventy or eighty years, without the leaſt interruption? How happens it, that this aſſociation of two beings, whoſe operations are ſo different, form ſo juſt a compound, that many are tempted to believe the whole ſimple and indiviſible? What hand has been able to join theſe two extremes? They had no connexion between themſelves. Matter could never make an agreement with mind; for, of herſelf, ſhe had neither thought nor will, to make any conditions. On the other hand, mind remembers no contract of this kind with matter; nor could it be tied up by a bargain it had forgotten. If the ſoul had voluntarily reſolved to ſubject itſelf to the body, it would carry this ſubjection no farther than it pleaſed; yet it is as certain, that, in ſpite of itſelf, it depends on the body; nor can it deliver itſelf, unleſs it deſtroys the organs of the body by a violent death. Beſides, even granting that the ſoul was of her own accord ſubjected to matter, it would not follow, that matter was mutually ſubjected to her. The ſoul ſhall indeed feel certain ſenſations, upon certain motions of the body. But the body is not, in return, always inclined to ſuit its motions to the ſentiments of the mind. Now it is as certain, that this dependence is reciprocal. Nothing more abſolute, than the empire of the ſoul over the body. It wills, and all the members of the body are inſtantly in motion, as if actuated by

the moſt powerful ſprings; on the contrary, nothing is more manifeſt, than the power the body has over the ſoul. The body moves, and the ſame moment the ſoul is forced to contemplate certain objects with pleaſure or grief. What hand, equally ſovereign of theſe two different natures, has been able to impoſe this yoke on both, and retain them both in ſo ſtrict and inviolable a ſociety? Shall we ſay, it is chance? Or, if we do, ſhall we be either intelligible to ourſelves or others? Has hazard, by a concourſe of atoms, united the parts of the body with the ſoul? If this *latter* could faſten itſelf to the body, it muſt have parts, and conſequently be really corporeal; in which caſe, we fall into the firſt anſwer already confuted. If, on the other hand, the ſoul has no parts, nothing can join it to the body, chance having nothing to accompliſh ſo great a work.

To conclude, my alternative always returns; and it is deciſive. If the ſoul and body are but the ſame compoſition of matter, whence comes it, that this matter, deſtitute of thought yeſterday, begins to think to-day? Who has given it, what it had not; and which is nobler than itſelf, when void of thought? He who gave it thought, had he it not himſelf? or how could he beſtow what he never had? Suppoſing even thought to ariſe from a certain configuration, arrangement,

and a degree of motion, in a certain ſenſe, of all the parts of matter, what artiſt has had the wiſdom to diſcover theſe juſt and nice combinations, to form a thinking machine? If, on the contrary, the ſoul and body are two different natures, what power, ſuperior to them, could unite them together, without the ſoul's having any ſhare in it, or even knowing how the union is accompliſhed? Who commands thus, with ſo ſovereign a ſway, ſouls and bodies, to hold them in ſo cloſe a correſpondence, and under ſo incomprehenſible a kind of government?

XLVI.

The empire of the ſoul over the body is abſolute.

OBSERVE, that the dominion of my ſoul over my body is ſovereign in its limited extent; ſince my ſimple will, without effort or preparation, inſtantly ſets in motion all the members of my body, according to the rules of the mechanics. As the ſcripture repreſents God ſaying, after the creation of the univerſe, *Let there be light, and it was ſo;* in like manner, the ſole internal command of my ſoul, without effort or preparation, ſees its dictates obeyed. I mean, that, by this ſimple and momentaneous order, my body is directed to move, and it moves. By this cloſe

connexion, all the parts of my body are put in action. Already the nerves are braced, the ſprings haſten to concur together; and the whole machine obeys, as if every one of its moſt ſecret organs heard ſome ſovereign and reſiſtleſs call. Here is, no doubt, a power the moſt ſimple and efficacious can be conceived. There is not a ſimilar example of it in all the beings we know. It is preciſely what men, perſuaded of the Divinity, attribute to him in all the univerſe.

SHALL I aſcribe it to my feeble underſtanding, or not rather to the power my ſoul has over my body, ſo different from it? Shall I believe, that my will has a title to this ſupreme power, which is in itſelf ſo weak and imperfect? But whence comes it, that, amongſt ſo many bodies, the mind has only power over one? No foreign body moves according to its deſires. Who has aſſigned it, over a ſingle body, the dominion it had over no other? Shall we once more have recourſe to *chance?*

XLVII.

The power of the ſoul over the body, is not only abſolute, but even blind.

DOES it not appear ſtrange, that ſo ſovereign a domination ſhould be at the ſame time blind?

The moſt ignorant peaſant knows how to move his body, as well as the wiſeſt anatomiſt. The ſoul of the countryman commands his muſcles, his nerves, and his tendons, which he knows nothing about; and of which he never heard ſpeak. Without being able to diſtinguiſh, or know where they lie, he finds them, addreſſes himſelf to thoſe he wants, and never miſtakes the one for the other. A rope-dancer only wills, and that moment his ſpirits run with impetuoſity, ſometimes to certain nerves, ſometimes to others, which dilate or contract themſelves accordingly. Aſk him, which are thoſe he put in motion, and how he began to ſet them in action? He does not underſtand what you mean. He is profoundly ignorant of all that paſſes in the internal ſprings of his machine. A player on the lute, who knows perfectly all the ſtrings of his inſtrument, has them under his eyes, and touches them one after another, is miſtaken. But the ſoul, which governs the machine of the human body, and moves all its reſorts exactly, without ſeeing or diſcerning them, or even knowing their figure, ſituation, or force, is never out in its account. What a prodigy! my ſoul commands over what it does not know, and what it cannot ſee; and yet, by this maſs incapable of thought, it is infallibly obeyed. What blindneſs is here! What power! The blindneſs is on the ſide of man; but whoſe is the

power? To whom ſhall we aſcribe it, if not to him, who ſees what man does not ſee; and endues him with this ſpiritual part, which ſets him above himſelf? My ſoul would in vain ſet in motion the bodies which ſurround it, and which it knows diſtinctly: none of them ſtir, nor has it any power by its will, to move the ſmalleſt atom. It has but one body aſſigned to its government and direction. With regard to this body the ſoul is intire maſter. St. *Auguſtine* has ſet theſe reflections in a juſt light: "The internal parts of "our body (ſays he) can be only animated by "our ſouls; but our ſouls animate them eaſier "than they know them. The ſoul is a ſtranger "to the body, ſubjected to it. It does not know "why it puts the nerves in motion only when "it pleaſes; or why, on the contrary, the pul"ſation of the veins is uninterrupted, even "though againſt its will. It is ignorant what "part of the body it firſt moves, to ſet the reſt "in motion. It does not even know, why it "perceives contrary to its will, or moves the "members when it pleaſes. It does all things "in the body. Whence comes it, that it is a "ſtranger to what it does, or the manner in "which it is done? Thoſe ſkilled in anatomy "(adds the good father) teach their pupils what "paſſes in them, and how it is done. Why (ſays "the ſaint), have I no need of a leſſon to know,

" that there is in the heavens, at a prodigious
" diſtance from me, a ſun and ſtars; and yet
" want a maſter to learn where begins the moti-
" on of....? When I ſtir my finger, I do
" not know how what I do myſelf is done. We
" are too elevated with regard to ourſelves, even
" when we comprehend nothing."

XLVIII.

The power of the ſoul over the body appears in all the images traced in the brain.

IN ſhort, nothing is more aſtoniſhing, than this abſolute ſway of the ſoul over corporeal organs, with which it is unacquainted; and the continual uſe it makes of them, without diſcerning them. This power principally ſhews itſelf, with regard to the images traced in the brain. I know, for inſtance, all the bodies in the univerſe, which have ſtruck my ſenſes for a great number of years. I have the diſtinct images, which repreſent them to me; ſo that I conceive them preſent, though they are no more. My brain reſembles a cabinet of pictures; of which all the pieces aſſemble together, and range themſelves, according to the taſte or fancy of the maſter of the houſe. The painters, with all their ſkill, can never attain but an imperfect likeneſs. For the

pictures in my head, they are ſo faithful, that it is by conſulting them I perceive the defects of limners, and learn to correct them within myſelf. Theſe images more reſembling, than the maſterpieces of art in painting, fix themſelves in my head, without my art. Is it a book, whoſe characters have ranged together of themſelves? If there be art, it is none of mine; for I find within me this collection of images, without my ever having had the leaſt thought of either graving them there, or placing them in order. But, what is more, theſe images preſent themſelves, or retire, as I pleaſe, without the leaſt confuſion. I recal them; they come: I ſend them away; they vaniſh I know not where. They aſſemble or ſeparate, as I deſire. I neither know where they reſide, nor what they are; yet I always find them ready when I want them. The agitation of ſo many old and new ideas, which revive, unite, or ſeparate, never diſturbs the certain order they preſerve. If ſome fail to appear at the firſt call, at leaſt I am ſure they are not far off; but, perhaps, hid in ſome out-of-the-way corner of the brain. I am not, how-ever, ignorant of theſe, as of things I never knew at all. On the contrary, I know confuſedly what I ſearch for. If any other image offers itſelf in the place of that I want, I reject it without heſitation. But what becomes of objects half-forgot? I have them within me,

ſince I ſeek and find them there: yet, where are they, or what are they, when I ſearch for them a long time in vain? "I am no more (ſays St. "*Auguſtine*) what I was, when I think on what "I cannot recollect. I know not how it hap- "pens (continues the father), that I ſhould be "thus obſtructed, a ſtranger to myſelf; no more "than how I know myſelf; like one recollected "and brought back. I am like another man, "tranſported to a ſtrange place, when I ſeek and "miſs what I have intruſted to my memory. "Till this is done, I am like one abſent from "home. I get thither by finding what I want. "But where is what we ſeek, if it is not within "us? And what do we ſeek, if it is not ourſelves? "Such a myſtery confounds me!" I can remember diſtinctly I have known what I now know no more. I can even remember my forgetting it. I can recall the diſtinct images of every acquaintance, in every age of life I have formerly known them. The ſame perſon repaſſes ſeveral times in my head. At firſt I ſee it an infant, next a youth, then grown. I place wrinkles on the ſame viſage, where once flouriſhed all the graces of youth. I join that which exiſts no more, with that which remains ſtill; without confounding theſe extremes. I preſerve a kind of *je ne ſcai quois*, which by turns is all things I have known ſince my coming into the world. From this unknown treaſure riſe all the

perfumes, all harmony, all kinds of taſte, all the degrees of light, colours with their ſhades and modifications; in ſhort, all the figures which have paſſed my ſenſes, and are impreſſed on my brain. When I pleaſe, I can renew the joy I felt thirty years ago. It comes at my call; but it is often no more the ſame, and it appears without giving me comfort. I juſt remember I was well-pleaſed at that diſtance of time; but in this remembrance I feel no pleaſure. On the other hand, I can recollect my ancient troubles. They become preſent; for I feel them diſtinctly. But they are no more the ſame; they trouble me no more; their ſting is gone: I ſee their rigour, but it gives me no longer pain; or, if it does, it is only in imagination. This remembrance of an anguiſh, formerly ſtinging, is but a jeſt. The idea of griefs paſt turns pleaſant. Is the caſe the ſame, with regard to pleaſures? A virtuous mind afflicts itſelf at the remembrance of its guilty joys. They riſe to view, with all that is ſoft and bewitching; but they have loſt their force; for ſuch pleaſures never are remembered, but with pain.

XLIX.

Two wonders of the memory and the brain.

HERE then are two wonders, equally incompatible. The one is, that my brain is a kind of book, where lie an infinite number of images and characters, placed in an order in which I had no hand, and which chance could never effect. For I never had the leaſt thought either to fix any thing in my brain, nor to give the leaſt arrangement to the characters traced there; I only amuſed myſelf with ſeeing the objects, when they preſented themſelves to my ſenſes. Chance could as little produce ſo marvellous a book. All the art of man is too imperfect ever to attain ſo high a degree of perfection. To what hand muſt we aſcribe it?

THE ſecond wonder I find in my brain, is to perceive, that my ſpirit reads with ſo much facility, whatever it pleaſes, in this internal book. It reads characters it does not underſtand. I have never obſerved the leaſt traces of theſe impreſſed in my brain; and the ſubſtance of the brain itſelf, which forms the paper of this book. All theſe innumerable characters ſhift their places, and then reſume their places, at my command.

I poſſeſs a kind of divine power over a work I do not know, and which is incapable of thought. What underſtands nothing elſe, underſtands my thought, and executes it in a moment. The mind of man has no power over other bodies. I ſee them in reviewing all nature. It is but one ſingle body my ſoul can give law to, and act upon, as if it was a divinity; and this it does without controul. Who has united it to this body, and given it ſuch empire over it?

L.

"The ſoul of man is compoſed of grandeur and "weakneſs. Its grandeur conſiſts in two points."

1. *The ſoul has the idea of infinitude.*

LET us conclude theſe remarks, by a ſhort reflection on the ſtructure of my mind: I find in it an incomprehenſible mixture of greatneſs and weakneſs. Its grandeur is real. It collects together without confuſion the paſt and the preſent, and even by its conjectures pierces into futurity. It has the idea of bodies, and that of minds. It has even ſome perception of infinitude itſelf; for it affirms whatever agrees to it, and denies whatever does not. Tell him, that infinitude is triangular; he will reply, without heſitation, that

what has no limits can have no figure. Let him aſk his queriſt, in return, to aſſign him the firſt of the unities, which compoſe an infinite number; he will anſwer, that there cannot be beginning, end, nor number, in what is infinite; becauſe if you could remark a firſt or laſt unity wanting, you might add another freſh unity, and conſequently increaſe the number. Now, a number capable of addition can never be infinite.

LI.

The ſoul only knows what is finite, by its idea of what is infinite.

IT is even from the idea of infinitude, that the ſoul knows what is finite. Whoever deſcribes a ſick man, ſays, he is a man who wants health. Who repreſents a feeble man, affirms he has no ſtrength. We know no diſeaſe which is only a privation of health, but by regarding health as a real bleſſing, of which a man is then deprived. We conceive feebleneſs, only by repreſenting ſtrength as a manifeſt advantage, which man has loſt. We conceive darkneſs (which has nothing poſitive), only by denying, and conſequently granting, the light of the day: juſt ſo, we perceive the *finite*, by aſcribing to it a boundary, which is a negation of a greater extent. This

then is a privation of infinitude. Now we could never have an idea of this, if we did not conceive what is *infinite*; as we cannot conceive ſickneſs, without a knowlege of health, of which it is but the privation. Whence ariſes in us this notion of infinitude?

LII.

2. *The ideas of the mind are univerſal, eternal, and unchangeable.*

HOW great is the human ſoul! It carries in itſelf ſomething aſtoniſhing, and infinitely ſurpaſſing itſelf. Its ideas are univerſal, eternal, and unchangeable. They are *univerſal:* for when I ſay it is impoſſible to be, and not to be; the whole is greater than a part; a line perfectly circular has no direct parts; between two points given, a direct line is the ſhorteſt; the center of a true circle is equally diſtant from every part of the circumference; an equilateral triangle can neither have an obtuſe nor right angle; all theſe truths will admit no exception. There never could exiſt line, circle, or triangle, but on theſe conditions. Theſe rules are properly ſpeaking, prior to time, and will always be of an incomprehenſible duration. Let the univerſe be overturned or annihilated; let there remain no ration-

al ſpirit to reaſon on exiſtences, lines, circles, and triangles, it will always remain equally true in itſelf, that the ſame thing cannot be, and not be, at one and the ſame time; that a perfect circle can have no portion of a ſtrait line; that the centre of a true circle cannot be nearer any one part of the circumference than the other. Men may indeed not actually attend to theſe truths, and it may even happen ſo, that there might not be a mind capable to think of them; but yet of themſelves theſe truths are equally invariable, though no ſpirit perceived them; juſt in the manner that the rays of the ſun would not be leſs true, though all men were blind, or none had eyes to be enlightened. " In maintaining that two and two " make four (ſays St. *Auguſtine*), I am not only " perſuaded, that I ſay true; but that this pro- " poſition has been undeniable in all ages, and " will continue ſo to the end of the world." Thoſe ideas, which we bear impreſſed on our minds, have no limits; and can ſuffer nothing. Nobody can tell me, that what I have aſſerted with regard to the centre of perfect circles, is not true only as to a certain number of circles. This propoſition, being ſelf-evident, is true for all circles to the end of time. Theſe unlimited ideas can never be changed, nor effaced, nor altered in us. They are the fund of our reaſon. Whatever conſtraint we put upon our mind, it is impoſſible once ſe-

rioufly to doubt, what our ideas repreſent to us with clearneſs. For example, I can never enter into a ſerious doubt to know, whether the whole be greater than one of its parts? if the center of a perfect circle be equidiſtant from all parts of its circumference? The idea of infinite in me, is like that of numbers, lines, circles, a whole, a part. To change our ideas, would be to deſtroy our reaſon itſelf. Let us judge of the grandeur of our mind, by the immutable notion of infinite, impreſſed within us; and which can never be effaced. But, leſt ſo real a grandeur ſhould dazzle us, or dangerouſly flatter us, let us next take a view of our own weakneſs.

LIII.

Of the weakneſs of the human mind.

THIS ſame mind, which perceives inceſſantly what is infinite, and by this rule knows all finite things, is alſo ignorant, to the end, of all the objects which ſurround it. It is profoundly unacquainted with itſelf. It marches, as it were, groping through an abyſs of darkneſs. It neither knows what it is, how it has become joined to a body, nor how it has ſo much command over the ſprings of this body, which he does not know. He is even ignorant of his own thoughts and in-

clinations. He knows not with certitude, either which he ſhall believe, or what he ſhall will. Often he imagines he has believed and willed, what he neither believed nor willed. He deceives himſelf; but what is beſt, is when he comes to find it out. To the error of his thoughts he joins the depravity of his manners. He is reduced to groan under the experience of his own corruption. Such is the ſoul of man, feeble, uncertain, limited, and full of errors. Who has placed the idea of infinite, that is to ſay, of perfection, in a ſubject ſo limited? If he gave it to himſelf, this idea ſo high and pure, which carries in itſelf a repreſentation of the infinite, what finite being, diſtinguiſhed from himſelf, could beſtow on him, what is ſo diſproportioned with all that is limited? Suppoſing, that the mind of a man is like a *mirror*, in which the images of all adjoining objects impreſs themſelves, what being has placed in us the idea of infinite, if infinite never was? Who could fix in a glaſs the image of a chimerical object, which has no exiſtence, and never appeared before that glaſs? This idea of infinite is not a confuſed maſs of finite objects, which the mind often miſtakes for the true infinite. It is the true infinite is impreſſed on our minds. We know it ſo well, that we preciſely diſtinguiſh it from every thing which is not itſelf; and no ſubtlety can ſubſtitute another object in its place. We

know it ſo well, that we exclude from it every property, which implies the leaſt bounds. To conclude, we know it ſo well, that by it alone we know all the reſt; as the night is known by the day, ſickneſs by health. Once more, whence comes an idea ſo grand? Shall we derive it from nothing? Could a limited being imagine and invent the infinite, if there were no ſuch thing? Our ſhort-ſighted and feeble mind could never form to itſelf this idea, for which it had no authority. Exterior objects could never furniſh us with this idea; for they could only give us the idea of what they are, and they have nothing but what is imperfect and limited. Whence then ſhall we derive this diſtinct image, which no way reſembles any thing about us, or of what we know here below? Whence comes it? Where is this infinite, which we cannot comprehend, becauſe it is the true infinite; and which nevertheleſs we cannot miſtake, becauſe we diſtinguiſh it from every thing that is inferior? Where is it? If it had no exiſtence, could it come to root itſelf in the bottom of our mind?

748717

LIV.

The ideas of man are the immutable rules of his judgment.

BUT, beſides the idea of infinite, man has other univerſal and unchangeable notions, which are the rule of all his judgments. I cannot judge any thing otherwiſe than by conſulting theſe; nor can I decide againſt what they repreſent to me. My thoughts, far from being able to correct theſe rules, are, in ſpite of me, themſelves corrected by them; and they are irreſiſtibly ſubjected to this deciſion. Whatever conſtraint I put on myſelf (as I have formerly obſerved), I can never bring myſelf to doubt, that two and two make four; that the whole is greater than its part; that the centre of a perfect circle is equally diſtant from all points of the circumference. I am not at liberty to deny theſe propoſitions. If I ſhould renounce theſe truths, or others like them, I have a power within me ſuperior to myſelf, and which ſoon forces me to own my error. This fixed and immutable rule is ſo internally rooted, that I am tempted to take it for myſelf; whereas it is far above me, as it corrects, redreſſes me, puts me on a juſt guard againſt myſelf, and warns me of my own weakneſs. It is ſomething which

whiſpers me every hour, provided I liſten to it; and I am never deceived, but in not attending to it. It is what inſpires and preſerves me inceſſantly, in every danger and error, if I would act obediently and without raſhneſs: for it would teach me to judge truly of things within the reach of my capacity; and about which there is a neceſſity to form a judgment; with regard to others, it would teach me not to trouble myſelf about them. This internal rule is no other than my *reaſon*. But I ſpeak of my reaſon, without penetrating the force of the term; as I talk of nature and inſtinct, without knowing what the expreſſions ſignify.

LV.

What REASON *is in* MAN.

IN truth, my reaſon is myſelf; for I muſt perpetually enter into myſelf to find it. But the ſuperior reaſon, which corrects me in neceſſity, and which I conſult, is not mine; nor does it make any part of myſelf. This rule is perfect and immutable. I am changeable and imperfect. When I go wrong, this reaſon does not loſe its integrity. When I am undeceived, it is not always owing to it. It indeed never quits its authority, to recall and bring me back to my duty. It is an in-

ternal maſter, which impoſes ſilence on me, forces me to ſpeak, to believe, doubt; teaches me to own my errors, or confirm my judgments. In hearkening to it, I receive inſtruction; in hearkening to myſelf, I go aſtray. This maſter is every-where, and his voice is heard from one end of the univerſe to the other; by all mankind, as well as me. While he corrects me in *France*, he corrects other men in *China*, *Japan*, *Mexico*, and *Peru*, by the ſame principles.

LVI.

REASON *is the ſame in men of all ages, and all countries.*

TWO men, who never ſaw one another in their life, who had never heard ſpeak of each other, and had no connexion with a third man to give them common notions; yet talk together at the extremities of the earth on a certain number of truths, as if they were perfectly agreed. We know infallibly before-hand in one hemiſphere, what they will think or anſwer about them in the other. Men of all ages and countries, be their education what it will, feel themſelves ſubjected to think and talk much in the ſame manner. The maſter, who teaches us inceſſantly, makes us all think the ſame way. When we haſten to judge,

without hearing his voice, or diſtruſting ourſelves, we think and act like men in a delirium. Thus it appears, that what moſt properly belongs to us, I would ſay our *reaſon*, is that which appears the leaſt our own, and the moſt borrowed. We receive inceſſantly and momentaneouſly a reaſon ſuperior to us; as we conſtantly breathe an air, which is an external body; or as we diſtinguiſh objects near us by the light of the ſun, whoſe rays are bodies wholly ſtrange to us. This ſuperior reaſon governs to a certain point, with an abſolute command, even the leaſt reaſonable men; making them act of their own accord, in ſpite of themſelves, on theſe points. It is this makes a ſavage of *Canada* ſpeak many things, which the *Greek* and *Roman* philoſophers have thought. It is this has led the *Chineſe* geometricians to have found out the ſame truths with the *Europeans*; though two people, ſo remote, were wholly unknown to each other. This makes it believed in *Japan*, as in *France*, that *two* and *two* make *four*; nor is there any fear, that any nation will change their opinion on this head. It is reaſon makes men believe to-day, the ſame way they did four thouſand years ago. It is this inſpires with uniform thoughts men the moſt jealous and irreconcileable between themſelves. It is by this that men in all climes, and all ages, have been combined together to a certain immoveable centre,

which holds them united by certain invariable rules, named *firſt principles;* notwithſtanding the infinite variety of opinions, which ariſe in them from their paſſions, their diſtractions, and their caprices, about other matters leſs clear. It is on this occaſion mankind, depraved as they are, have not openly dared to aſſign the name of *virtue* to vice; and that they are ſtill reduced to preſerve the appearances of juſtice, ſincerity, moderation, and benevolence, in order to attract the eſteem of others. We do not eaſily conſtrain ourſelves, to regard or deſpiſe objects. We cannot break through this eternal barrier and juſtice. The internal maſter, *reaſon*, reproaches within, with an abſolute power. He ſuffers nothing. He bounds the moſt impudent extravagancies of men. After ſo many ages, in which vice has reigned without check or obſtacle, *virtue* is ſtill named *virtue* by all, nor can its moſt brutal and inveterate enemies rob it of its title. Hence it comes, that vice, though triumphant, is forced to diſguiſe itſelf under the maſk of hypocriſy, or falſe probity, to draw on herſelf that eſteem ſhe would have no pretence to make. Thus, in ſpite of her aſſurance, ſhe pays a forced homage to virtue, by borrowing her robes to cheat the world. It is true, virtuous men are ſeverely ſubject to cenſure; and we are indeed, in this life, none of us free from reprehenſion. But the moſt vicious men

can never totally extinguiſh, in themſelves, the idea of true virtue. There was never yet that man on earth, who could prevail on himſelf, or others, to allow, as a received maxim, that to be knaviſh, paſſionate, and miſchievous, is more honourable than to be honeſt, moderate, good-natured, and benevolent.

LVII.

REASON *in* MAN *is independent of and above him.*

I HAVE already evinced, that the inward and univerſal maſter at all times, and in all places, ſpeaks the ſame truths. We are not that maſter though it is true, we often ſpeak without, and higher than him. But then we miſtake, ſtutter, and do not ſo much as underſtand ourſelves. We are even afraid of being made ſenſible of our miſtakes; and we ſhut up our ears, leſt we ſhould be humbled by his corrections. Certainly the man who is apprehenſive of being corrected and reproved by that uncorruptible reaſon, and ever goes aſtray when he does not follow it, is not that perfect, univerſal, and immutable reaſon, that corrects him in ſpite of himſelf. In all things we find, as it were, two principles within us: the one gives, the other receives; the one fails,

or is defective, the other makes up; the one miſtakes, the other rectifies; the one goes awry through his inclination, the other ſets him right. It was the miſtaken and ill-underſtood experience of this, that led the *Marcionites* and *Manicheans* into error. Every man is conſcious within himſelf of a limited and inferior reaſon, that goes aſtray and errs, as ſoon as it gets looſe from an intire ſubordination; and which mends its error no other way, but by returning under the yoke of another ſuperior, univerſal, and immutable reaſon. Thus every thing within us argues an inferior, limited, communicated, and borrowed reaſon, that wants every moment to be rectified by another. All men are rational, by means of the ſame reaſon that communicates itſelf to them, according to various degrees. There are a certain number of wiſe men; but the wiſdom from which they draw theirs, as from an inexhauſtible ſource, and which makes them what they are, is but one.

LVIII.

It is the primitive truth, that lights all minds, by communicating itſelf to them.

WHERE is that wiſdom? Where is that reaſon, at once both common and ſuperior to all

limited and imperfect reaſons of mankind? Where is that oracle, which is never ſilent, and againſt which all the vain prejudices of men cannot prevail? Where is that reaſon which we have ever occaſion to conſult, and which prevents us by creating the deſire of hearing its voice? Where is that lively light, *which lighteth every man that cometh into the world?* Where is that pure and ſoft light, which not only lights thoſe eyes that are open, but which opens eyes that are ſhut; cures ſore eyes; gives eyes to thoſe that have none to ſee it? In ſhort, which raiſes the deſire of being lighted by it, and gains even their love, who were afraid to ſee it? Every eye ſees it; nor would it ſee any thing, unleſs it ſaw it; ſince it is by that light, and its pure rays, that the eye ſees every thing. As the ſenſible ſun in the firmament lights all bodies; ſo the ſun of intelligence lights all minds. The ſubſtance of a man's eye is not the light: on the contrary, the eye borrows, every moment, the light from the rays of the ſun. Juſt in the ſame manner, my mind is not the primitive reaſon, or univerſal and immutable truth, but only the organ through which that original light paſſes, and which is lighted by it. There is a ſun of ſpirits that lights them far better than the viſible ſun lights bodies. This ſun of ſpirits gives us, at once, both its light, and the love of it, in order to ſeek it. That ſun of truth

leaves no manner of darkneſs; and ſhines at the ſame time in the two hemiſpheres. It lights us as much by night as by day; nor does it ſpread its rays outwardly, but inhabits in every one of us. A man can never deprive another man of its beams. One ſees it equally, in whatever corner of the univerſe he may lurk. A man never needs ſay to another, *Step aſide, to let me ſee that ſun: you rob me of its rays: you take away my ſhare of it.* That ſun never ſets; nor ſuffers any cloud, but ſuch as are raiſed by our paſſions. It is a day without ſhadow. It lights the ſavages even in the deepeſt and darkeſt caves; none but ſore eyes wink againſt its light: nor is there indeed any man ſo diſtempered, and ſo blind, but who ſtill walks by the glimpſe of ſome duſkiſh light he retains from that inward ſun of conſciences. That univerſal light diſcovers and repreſents all objects to our minds; nor can we judge of any thing, but by it; juſt as we cannot diſcern any body, but by the rays of the ſun.

LIX.

It is by the light of the primitive truth, that a man judges of the truth or falſe-hood of what is ſaid to him.

MEN may talk to us, with a view to our inſtruction; but we cannot believe them farther, than we find a certain conformity betwixt what they ſay, and what is dictated to us by the maſter within. After they have exhauſted all their arguments, we muſt ſtill appeal to this maſter, and liſten to him for a final deciſion. If a man ſhould tell us, that a part is equal to the whole, of which it is but a part, we could not forbear laughing; inſtead of perſuading us, he would become contemptible in our opinion. It is in the deep receſs of our own minds, by conſulting the maſter who reſides there, that we are to look for the truths, which others may attempt to teach us from without. To ſpeak properly, there is only one true maſter, who teaches all things, and without whom, nothing can be learned. Other maſters refer us ſtill to this internal ſchool, where the one inſtructor ſpeaks alone: it is there we receive what we have not; it is there we learn what we knew not before, and recover what we had

loſt in oblivion. It is in the intimate receſs of ourſelves that he keeps in ſtore for us certain truths, which lie as it were buried, till ſome occaſion calls them forth to life: and it is there, in a word, that we diveſt ourſelves of the falſhood we had embraced. We are ſo far from judging this maſter, that his judgment abſolutely controuls us in all things. He is a diſintereſted judge, and hath full ſuperiority over us. We may, indeed, refuſe to liſten to him, and drown his voice in the tumult of our paſſions; but if we hear, we have no power to contradict him. Nothing is more unlike man than this inviſible maſter, who inſtructs him, and who judges him with ſo much rigour and perfect truth. Thus our limited, uncertain, defective reaſon, is only a feeble and momentary inſpiration of a primitive, ſupreme, and immutable reaſon, which communicates itſelf, in ſome degree, to all intelligent beings.

LX.

The ſuperior reaſon, that reſides in man, is God himſelf; and whatſoever hath hitherto been diſcovered to be in man, are evident footſteps of the divinity.

IT cannot be ſaid, that man gives himſelf the thoughts he did not poſſeſs: much leſs can it be

ſaid, that he receives them from other men; ſince it is certain, that he neither does, nor can admit any thing from without, unleſs he finds it in the receſs of his own mind, by an inward conſultation with the principles of reaſon, an examination whether what he is told be agreeable, or repugnant to them. This inward ſchool therefore, in which a man acquires what he neither can give himſelf, nor obtain from other men, who, like him, live upon truſt, is real. Thus do I find within me two reaſons; one of which is myſelf, the other ſomewhat above me. That which is myſelf, is very imperfect, prejudiced, ſubject to error, changeable, head-ſtrong, ignorant, and limited; in ſhort, it poſſeſſes nothing but what it borrows. The other, though common to all men, is at the ſame time ſuperior to all men: it is perfect, eternal, immutable, ever ready to communicate itſelf in all places, and to rectify the miſtakes of all erroneous minds; in a word, it is incapable of being either exhauſted or divided, though it flows perpetually into every breaſt that is open to receive it. Where ſhall I look for that reaſon, which is ever ſo near me, and yet ſo diſtinct from me? Where does it reſide? That it muſt be ſomething real, is manifeſt, ſince that which does not exiſt can neither be perfect in itſelf, nor communicate perfection to imperfect na-

tures. Where! O where is this ſupreme reaſon? Is it not the very God I am ſearching after?

LXI.

Other ſenſible traces of the divinity in man, drawn from the knowlege which man has of unity.

I STILL find other footſteps of the divinity within me; and this is one which now ſtrikes me very ſenſibly.

I HAVE an idea of numbers, and their relations to one another, even to a prodigious quantity.

FROM whence did I derive this knowlege? It is ſo very diſtinct, that I cannot ſeriouſly doubt of my poſſeſſing it: if another man deviates from it in computation, I immediately correct him without diffidence. If he tells me that 17 and 3 make 22, I ſuddenly anſwer that 17 and 3 make but 20; and the ſame light, which reſides in him alſo, obliges him inſtantly to acquieſce in my correction. The ſame maſter, who ſpeaks in me to correct him, ſpeaks at the ſame time in him, and bids him acquieſce. They are not two maſters, who conſent betwixt themſelves to make us agree. It is one indiviſible, eternal, immutable ſome-

thing, which, at the ſame time, ſpeaks in us both with an irreſiſtible perſuaſion. Once more then, from whence have I this juſt notion of numbers? Numbers, in their utmoſt extent, are but a ſeries of repeated units: a certain ſum of theſe units, compounded together, makes every diſtinct numerical denomination. The number of two, for inſtance, conſiſts of two units: the number of four is reducible to one, repeated four times*. We cannot, therefore, conceive any number, without conceiving unity, which is the fundamental eſſence of every poſſible number: nor can we conceive any repetition of unity, without conceiving unity itſelf, which is the baſis of it.

But, by what means can I know any real unit? I never ſaw, I never imagined any by the medium of my ſenſes. For inſtance, let me take the moſt minute atom; it muſt have a figure, length, breadth, and depth; a top and a bottom; a right and a left ſide: and again, the top is not the bottom, nor is one ſide the other. Therefore, this atom is not truly one, ſince it conſiſts of parts. Now a compound is a real number, and a multitude of beings. It is not a real unit, but a collection of beings; one of which is not the other. It was not by my eyes, nor

* *S. Aug.* l. 2. *de Lib. Arb.*

ears, or my hands, therefore, nor even by my imagination, that I learned there is in nature any real unity: on the contrary, whatever my ſenſes, or my imagination ever preſented to me, was a compound, a real number, or a multitude. Abſtracted unity continually flies me, and eſcapes me, as it were, by a kind of enchantment. Yet, ſince I look for it in ſo many diviſions of an atom, it is certain that I have a diſtinct idea of it; and it is only by this ſimple and clear idea, and the repetition of it, that I arrive at the knowlege of ſo many other numbers. At the ſame time it is evident, that ſince it eſcapes me in all the diviſions of natural bodies, I never came by the knowlege of it through the canal of my ſenſes or imagination. Here then is an idea within me, independent of the ſenſes, the imagination, and bodily impreſſions.

FARTHER, ſhould I even ſcruple to acknowlege that I have a clear idea of unity, which is the foundation of all numbers, becauſe numbers are but repetitions or collections of units; I muſt be compelled, at leaſt, to confeſs, that I know a great many numbers, with their properties and relations. I know, for inſtance, how many 900000000, added to another ſum of 800000000, will make. In this I do not miſtake myſelf; in this I ſhould, with great certainty and readineſs,

correct another man that fell into a miſtake. Yet it never was in the power of either my ſenſes, or my imagination, to repreſent to me diſtinctly all theſe millions added together. The picture or image, that would be repreſented to me, by either of theſe, would not be more like ſeventeen hundred millions, than it would be like a far inferior number. How was it then that I came by ſo diſtinct an idea of numbers, which I never could either perceive or imagine? Theſe ideas, independent upon bodies, can neither be corporeal themſelves, nor received into a corporeal ſubject. They diſcover to me the nature of my ſoul, which admits and receives into itſelf what is incorporeal, in a manner that has no relation to body. But whence have I, of bodies themſelves, an idea ſo diſtinct from body? It cannot be by my own nature, which is incapable of ſuch diſtinction: that within me, which knows bodies, is itſelf incorporeal; ſince it knows them without receiving that knowlege through the canal of corporeal organs, ſuch as the ſenſes and imagination. That which thinks in me, muſt be, if I may uſe ſuch an expreſſion, a ſort of nothing of corporeal nature. How became I able to know beings, which by nature have no relation with my thinking eſſence? Some other being, ſuperior to thoſe two ſo very different natures, and which comprehends them both in its own infinity, muſt

certainly have united them in my ſoul, and given me an idea of a nature entirely different from that which thinks within me.

LXII.

The idea of unity proves, that there are ſubſtances not material, and that there is a being perfectly one, who is God.

SOME one perhaps may ſay, with regard to units: it is in a ſpiritual, not a bodily manner, that I come to the knowlege of them; and therefore my mind being diſtinctly one, and truly known to me, it is from that, not from corporeal ſubſtance, that I have the idea of unity. But, to this I anſwer,

1. *That there are material ſubſtances.*

IT will follow, at leaſt, from thence, that I know ſubſtances which are preſent, and yet have no extenſion or diviſibility. Thus are we already come to beings purely incorporeal, in the number of which I ought to place my ſoul. Who is it that has united this ſoul to my body? My ſoul is not an infinite being; it has not exiſted always, and its thoughts are now confined within certain limits. Who made it? Who enables it to know

bodies ſo different from itſelf? Who gives it ſo great a command over one certain body, and reciprocally gives that body ſo powerful an empire over the ſoul? Moreover, how do I know whether this thinking ſoul be really one, or whether it hath parts? I do not ſee this ſoul. Will any man tell me, it is a thing ſo inviſible, and ſo impenetrable, that it ſhews me clearly what is unity? So far am I from learning by my ſoul what it is to be diſtinctly one, that, on the contrary, it is by the idea of unity I already have, that I examine whether my ſoul be one, or compoſed of parts.

2. *That there is a being perfectly one, which is* GOD *alone.*

ADD to this, that I have within me a clear idea of a perfect unity, an idea far above what I can find in my ſoul. She is often divided, as it were, betwixt two opinions, two contrary inclinations and habits: and of this diviſion ſhe is conſcious to herſelf. Does not this diviſion, which I find within my own breaſt, indicate ſomething like multiplicity, and compoſition of parts? The ſoul has, beſides, what we may at leaſt call a ſucceſſive compoſition of thoughts, one of which is altogether different and diſtinct from another. Now I conceive an unity, which, if I may ſo ſpeak, is infinitely more one than this. I conceive a be-

ing who never changes his thoughts, who for ever thinks all things at once, and in whom no compoſition, not even that ariſing from ſucceſſion, can be found. It is, undoubtedly, this idea of the perfect and ſupreme unity, that makes me ſo inquiſitive after ſomewhat of unity in ſpirits, and even in bodies. This idea, ever preſent in my own breaſt, is born with me: it is the perfect model, which guides me in all my reſearches after ſome imperfect copy of itſelf. This idea of what by way of excellence is one, ſimple, and indiviſible, can be no other than the idea of God. I therefore know God with ſuch perſpicuous evidence, that it is by my knowlege of him that I ſeek in myſelf, and in all creatures, ſome image and reſemblance of his unity. All bodies have, as it were, ſome mark or impreſſion of that unity; and all ſpirits, though they have a ſucceſſive compoſition of thoughts, bear a ſtill nearer ſimilitude of it.

LXIII.

The dependency and independency of man. His dependency proves the exiſtence of his Creator.

BUT there is ſtill another myſtery, which I carry within me, and which renders me incomprehenſible to myſelf; *viz.* That on the one hand,

I am free; and on the other, I am dependent. Let us examine theſe two contrarieties, and ſee whether it be poſſible to reconcile them.

I AM a dependent being. Independency is the ſupreme perfection. That which is by itſelf, muſt carry within itſelf the ſource and ſpring of its own being; or, which is the ſame thing, it muſt borrow or derive nothing from any other being different from itſelf. Suppoſe a being which collects in itſelf all the perfections you can conceive, but which, at the ſame time, has a borrowed and dependent exiſtence; you will ſtill find it to be leſs than another being, of which you have only the ſingle idea of bare independency. For there is no compariſon to be made betwixt a being that exiſts by itſelf, and a being which has nothing of its own, nothing but what it borrows; and which poſſeſſes itſelf, as it were, only upon truſt.

THIS conſideration diſcovers to me the imperfection of that which I call my ſoul. If ſhe exiſted by herſelf, ſhe would borrow nothing from any other; ſhe would not want either to have her ignorance enlightened, or her errors corrected. Nothing could reclaim her from her vices, or inſpire her with any virtue, or render her will better and more tractable than ſhe found it at firſt.

This ſoul would for ever poſſeſs all that ſhe could ever be capable of enjoying; nor could ſhe ever receive any addition from without. It is no leſs certain, at the ſame time, that ſhe could not loſe any of her perfections: for what exiſts by itſelf, is always neceſſarily the whole of itſelf. My ſoul, therefore, could not lapſe into ignorance, error, or vice; nor could ſhe ſuffer any diminution of her volition to good. On the other hand, ſhe could neither inſtruct or correct herſelf; nor could ſhe become better than ſhe is. As things are, I experience the contrary of all that would be thus neceſſary, if my ſoul were ſelf-exiſtent. I forget, I miſtake, I wander aſtray; I loſe the ſight of truth, and the love of virtue; I am liable to corruption and diminution. On the other hand, I improve and augment by the acquiſition of wiſdom, and diſpoſition to virtue, which I had not before. This intimate experience convinces me, that my ſoul is not a ſelf-exiſtent, independent being; a being neceſſary in itſelf, and immutable in regard to all that it poſſeſſes. Whence then proceeds this augmentation and improvement of myſelf? Who is it that can render my being more perfect, by making me better, and conſequently making me greater than I was before?

LXIV.

Volition to good can proceed only from a ſuperior being.

THE will, or capacity of willing, is doubtleſs a degree of exiſtence, and of goodneſs, or perfection. But good will, or volition to good, and deſire after it, is another degree of ſuperior good. For one may abuſe the faculty of willing, by willing that which is evil; as to deceive, hurt, or do injuſtice: whereas good will is the good or right uſe of the will itſelf; which cannot but be good. There is nothing therefore ſo precious in man, as this good will, benevolence, or volition to good. It is this which ſets a value upon all his other faculties. It is, as it were, *the whole man**, according to the words of the preacher.

WE have already ſeen, that my will does not exiſt by itſelf, ſince it is ſubject to loſe, and to receive degrees of good, or perfection. We have ſeen, that it is a good inferior to good will; becauſe it is better to will that which is good, than barely to have a will ſuſceptible both of good and

* *Hoc eſt enim omnis homo*; ſo the vulgate renders thoſe words *Eccleſ.* xii. 13. which, in our tranſlation, we read, *This is the whole duty of man.*

evil. How is it poſſible to believe, that I, a weak, imperfect, borrowed, and dependent being, can beſtow on myſelf the higheſt degree of perfection; while it is evident, that the inferior degree is derived to me from a firſt exiſtence? Can I imagine that God gives me the leſſer good, and that without him I give myſelf the greater? Where ſhould I obtain that high degree of perfection, in order to beſtow it on myſelf? Could I procure it from nothing, which is the whole of my own ſtock? Shall I ſay, that other ſpirits, equally imperfect with mine, communicate it unto me? But ſince thoſe limited and dependent beings cannot, any more than myſelf, give to themſelves any one thing; much leſs can they beſtow any thing on another. Not being ſelf-exiſtent, they have not of themſelves any true power, either over me, over thoſe things that are imperfect in me, or over themſelves. It is neceſſary therefore, without ſtaying to look at them, to aſcend higher, and find out a firſt, all-prolific, all-powerful cauſe, who is able to beſtow on my ſoul that good volition which ſhe has not in herſelf.

LXV.

A ſuperior eſſence being the cauſe of all the modifications of the creatures, it is impoſſible for the human will, unaſſiſted, to determine itſelf towards that which is good.

LET us here add another reflection. That firſt being is the cauſe of all the modifications of his creatures. The operation, to ſpeak in the language of the philoſophers, follows the exiſtence. A being that is dependent in the eſſence of his being, cannot but be dependent in all his operations. That which is acceſſory, is a conſequence of the principal. The author of their eſſence, therefore, is alſo the author of all the modifications or modes of exiſtence in his creatures. Thus God is the real and immediate cauſe of all the configurations, combinations, and motions of all the bodies in the univerſe. He hath ſet one body in motion, and by means of that he gives motion to another. It is he who created all things, and who operates all things in his own works. Now volition is the modification of the will, juſt as motion is the modification of bodies. Shall we affirm, that God is the real, immediate, and entire cauſe of the motion of all bodies, and deny that he is equally the real and immediate

cauſe which actuates the will to what is good? Shall this modification, the moſt excellent of all, be the only one not wrought by God in his own work? Shall the work beſtow this on itſelf, independently of its author? Who can entertain ſuch a thought? My volition to good, which I had not yeſterday, and which I have to-day, is not therefore a thing which I beſtow on myſelf. It came from him who gave me the faculty of willing, and even my very exiſtence.

As volition is a greater perfection than bare exiſtence; ſo to will that which is good, is a greater perfection than ſimply to will. The conſequent operation of power, when it proceeds to a virtuous act, is the greateſt of all human perfections. Power is only a balance, a beam in equilibre betwixt virtue and vice, a mere ſuſpenſion betwixt good and evil. The progreſs or paſſage to the act, is a determination to the ſide of good, and conſequently to that good which is ſuperior. The power ſuſceptible of good and evil proceeds from God: this is what we have proved beyond all poſſibility of a doubt. Shall we now affirm, that the deciſive ſtroke, the operation that determines to the greater good, does not proceed from him, or proceeds leſs from him than the bare power? All that we have ſaid evidently concurs with thoſe words of the apoſtle, That *God works*

*in us both to will and to do, of his own good pleaſure**. Thus far we have traced the dependency of man. Let us now ſee wherein conſiſts his liberty.

LXVI.

Of human liberty.

I AM free. This is a truth, of which I can have no doubt. I can either will, or not will: of this I feel within my breaſt the moſt intimate and invincible evidence. There is in me not only a power of choice betwixt willing and not willing; but alſo a choice betwixt divers wills, with reſpect to the variety of objects that preſent themſelves. I am ſenſible, as the ſcripture ſays, that *I am in the hand of my council*†. This alone ſuffices to ſhew me, that my ſoul is not corporeal. All that conſiſts of body, all corporeal ſubſtances, are in every thing determined by laws, which we call phyſical, or natural; laws that are neceſſary, invincible, and oppoſite to what we underſtand by liberty: they do not, in any ſenſe, determine themſelves. From thence I conclude, that my ſoul is of a nature entirely different from that of my body. But who is it, that was able to join,

* *Philip.* ii. 13. † *Eccluſ.* xv. 14.

in ſuch a reciprocal union, two natures ſo different, and retain them in a concert ſo juſtly ſuited to all their reſpective operations? This bond, as we before obſerved, could be formed only by a ſuperior being, who comprehends theſe two kinds of perfection in his own perfect infinity.

LXVII.

The will of man, when it determines, modifies itſelf; and in this conſiſts human liberty.

THAT modification of my ſoul, which we call volition, or will, is not of the ſame kind with the modifications of bodies. A body does not in any ſenſe modify itſelf: it is modified by the power of God alone. It does not move itſelf; but is moved. It acts not at all; but in every thing is actuated, or acted upon. Thus, God is the only real and immediate cauſe of all the different modifications of bodies. But, with regard to ſpirits, the caſe is quite otherwiſe. My will determines itſelf; and ſince to determine, in this caſe, is in fact to modify, therefore my will modifies itſelf. God may prevent my ſoul; but he does not give it volition, in the ſame manner as he gives motion to bodies. If it be God who modifies me, I concur with him in the modification; and am therefore, in concert with him, a

real cauſe of my own will. My will is ſo much my own, that the fault is only mine, if I will not what I ought. When I will a thing, it is in my power not to will it: I am maſter of this operation. And when I do not will it, it is becauſe I chuſe this negative rather than the affirmative, which is equally in my power. I neither am, nor can be, conſtrained in my will: for it is not poſſible, that I ſhould, in ſpite of myſelf, will that which I actually do will; ſince the volition, which I here ſuppoſe, evidently excludes all manner of conſtraint. And, beſides that I am exempt from all compulſion, I am alſo exempt from all neceſſity. I am conſcious to myſelf, that I have, if I may ſo ſpeak, a will with two edges, which can ſtrike on either ſide; or with two handles, which can chuſe either the *yes*, or the *no*; can turn itſelf either to this or to that object. My will itſelf is the only reaſon I know of my volition. I will a thing, becauſe my will leads me to that determination, and becauſe nothing is ſo much in my power, as either to will or to reject it. Admitting that the will were not conſtrained, yet, if it were neceſſitated, it would be as ſtrongly and irreſiſtibly determined from without to the act of volition, as bodies are to motion. Bodies and ſpirits would, in this caſe, be equally under another influence than their own; and the ſame invincible neceſſity, which determines thoſe

to move, would determine theſe to will. Neither the one nor the other could be accountable for operations, in which they had no power of election. The will, it is true, might ſtill be ſaid to will that which it would: but ſo bodies likewiſe, when they move, actually have the motion which is impreſſed on them; and volition, in this caſe, would not differ from that motion. And if volition, like motion, be an effect of neceſſity, neither the one nor the other deſerves either praiſe or blame. A neceſſitated will, though we may call it a will unconſtrained, is yet ſuch a will as we cannot avoid having, and for which he that has it is not therefore accountable. Nor does foreknowlege confer true liberty on him that enjoys it: for he may have knowlege of a diverſity of objects, before he proceeds to volition, and yet have no real choice among thoſe objects. Deliberation itſelf is a ridiculous and cruel inſult on my infirmity, if, while I am balancing betwixt two opinions, I am actually unable, after all, to embrace the one, and under an abſolute neceſſity to cloſe with the other. In a word, there is no true, no ſerious choice betwixt two objects, unleſs they both are ready before me, and ſo equally in my power, that I can either take or refuſe which of them I pleaſe.

LXVIII.

The human will may reſiſt the grace of God; and this liberty is the foundation of our merit, or demerit.

BY ſaying that I am free, I mean therefore, that my will is fully in my power, and that God himſelf leaves me at liberty to turn it which way I pleaſe; that I am not determined, like other beings, but ſubject to my own determination. I conceive, that if that firſt being prevents me, by inſpiring me with a will to what is good, I ſtill have power to reject his actual inſpiration, how forcible ſoever it may be; to fruſtrate its effect, and refuſe my aſſent to the divine impulſe §. I conceive likewiſe, that when I reject the heavenly inſpiration towards what is good, I have the true and actual power not to reject it; juſt as I have the actual and immediate power to riſe when I am ſitting, and to ſhut my eyes when they are open. Objects, indeed, may tempt and allure me, by that which is agreeable in them, to will or deſire them. Reaſons, for turning my volition that way, may preſent themſelves to my

§ *Conc. Trid. Seſſ.* 6.

mind with the utmoſt ſpirit and vivacity. The ſupreme being may alſo attract me, by his moſt perſuaſive inſpirations. But yet, amidſt all theſe allurements of objects, this vivacity of reaſons, and even this actual inſpiration of a ſuperior being, I ſtill remain maſter of my will, and am free either to chuſe or to reject.

It is this exemption, not only from all conſtraint, but likewiſe from all neceſſity, this empire over my own actions, which renders me inexcuſable when I will that which is evil, and praiſeworthy, when I will that which is good. This is the foundation of human merit, or demerit. This conſtitutes the juſtice of either puniſhments or rewards. Among men, all exhortations, reprehenſions, promiſes, threatenings, take their riſe from this conſideration. All political inſtitutions, every kind of inſtruction, every rule for our moral conduct, have this for their baſis. In a word, all that regards human life, and the real character of human action, is reducible to the teſt of this ſingle truth: 'That 'nothing is ſo much in the power of our will, 'as our will itſelf; and that we poſſeſs this free 'will, this determining power, this faculty of 'chuſing betwixt objects on both ſides, this e-'lection betwixt two opinions or counſels, which

' are both immediately within our reach †. Of this power the ſhepherds and ploughmen ſing in the fields: the merchants and artificers ſuppoſe it in their dealings; actors repreſent it on the ſtage; magiſtrates believe it in their deliberations and judgments; doctors teach it in their ſchools: no man of ſenſe, in ſhort, can ſeriouſly doubt the exiſtence of it. This truth, imprinted in the inmoſt receſs of our hearts, is always ſuppoſed in the practice of life, even by thoſe philoſophers who would endeavour to ſhake it by their vain ſpeculations. The intimate, ſelf-convicting evidence of this truth, is like that of the firſt principles, which want no concurrent teſtimony; but ſerve themſelves as ſufficient proofs to other truths, which are leſs clear and manifeſt. But the queſtion that now occurs, is, how could the firſt being make a creature, which is thus the arbiter of its own actions?

LXIX.

A character of the divinity, drawn from the dependency and independency of man.

LET us now join together theſe two truths, which are equally certain. I am dependent up-

† AUG. *Lib. de duabus Animab.*

on a firſt being, even in my own will; and nevertheleſs, I am free. What then is this dependent liberty? How is it poſſible we can comprehend a free will, which yet is given by a firſt being? I am free in my will, as God is in his. It is principally in this, that I am the likeneſs and image of God. What a greatneſs, bordering upon infinity, does this preſent to the imagination! This is, indeed, a ray of the divinity itſelf. The power that I have over my will, is a kind of divine power: and yet I am but a bare image of that ſupreme being, ſo abſolutely free and powerful.

THE image of the divine independency, is not really that independency, which it only repreſents. My liberty is but a ſhadow of the liberty of the firſt being, by whom I exiſt, and by whom I act. On the one hand, the power I have of willing what is evil, is not ſo much a true power, as a weakneſs and frailty inſeparable from my will: for it is only a power to fall, to degrade myſelf, and to diminiſh my degree of perfection and exiſtence. On the other hand, the power I have to will what is good, is not an abſolute power, ſince I have it not of myſelf. Therefore, as liberty is nothing more than power, a borrowed power can conſtitute only a borrowed and dependent liberty. A being ſo imperfect, and ſo

little his own, cannot be otherwiſe than dependent. But how then is he free? How profound is this myſtery! His liberty, of which I cannot doubt, demonſtrates his perfection: his dependence ſhews the origin of his exiſtence, which is from nothing.

LXX.

The ſeal and ſtamp of the Deity in his works.

WE have been ſurveying the footſteps of the divinity, or rather the ſeal and ſtamp of God himſelf, in all that is called the works of nature. When we avoid metaphyſical ſubtilties, we obſerve, with the firſt glance of the eye, a hand that is the firſt mover in all the parts of the univerſe. The heavens, the earth, the ſtars, vegetables, animals, our own bodies, and our minds; every thing preſents to us an order, a juſtly proportioned meaſure, an art, a wiſdom, a ſpirit ſuperior to us, which appears as the ſoul of the whole world, and which conducts all things to its own ends, with a force which is at once omnipotent, and yet gentle and inſenſible. We have ſeen, to ſpeak familiarly, the architecture and frame of the univerſe, and the juſt proportion of all its parts: a ſingle glance hath all along ſufficed us to diſcover in a ſmall animal, even in an

ant, more than we can find in the ſun; a wiſdom and power delighting to ſhew itſelf in forming and finiſhing the meaneſt of its works. Thus much is immediately obvious, without any ſpeculative diſcuſſion, to the moſt ignorant of mankind. But what a world of other wonders ſhould we diſcover, were we to penetrate into the ſecrets of natural bodies; were we to diſſect the internal parts of animals, and trace that moſt perfect mechaniſm, which is there diſcernible?

LXXI.

An objection of the Epicureans, who aſcribe every thing to chance.

METHINKS I hear certain philoſophers, who tell me in anſwer, that all this harangue on the art which ſhines forth in nature, is nothing but a continued ſeries of ſophiſtry. 'It is true, 'ſay they, that all nature is for man's uſe: but 'it is a falſe inference, which you draw from 'thence, that it is the work of art, and was made 'on purpoſe for man. He that can thus find 'what he looks for, though it never exiſted, 'muſt have a moſt ingenious art in deceiving himſelf. The induſtry of man, they will add, 'does indeed make uſe of an infinite number of 'things which nature exhibits to him, and which

'he finds convenient for his purpoſe; but nature 'did not make thoſe things expreſly for his uſe 'and conveniency. For example, there are 'ſome country-fellows who daily climb up, by 'means of ſome points and irregularities they 'find in the rocks, to the top of a high moun-'tain: but it does not from thence follow, that 'thoſe points and irregularities were cut with 'art, like a ſtair-caſe, for the commodity of ſuch 'men. In like manner, when a man happens 'to be in a field during a ſtorm, and, by good 'luck, meets with a cave, he makes uſe of it, as 'he would of a houſe, for ſhelter: but it is not 'for this reaſon true, that the cave was made on 'purpoſe to ſerve the man for a houſe. It is the 'ſame thing with reſpect to the whole world. It 'was formed by chance, and without deſign: 'but men, finding it ſuch as it is, had the inven-'tion and addreſs to adapt it to their own uſes. 'Thus the art, which you admire, both in the 'work and him that made it, is really in man 'only, who knows how, when he ſees things 'ready, to make his own advantage of what he 'finds around him.' This is doubtleſs the ſtrong-eſt objection, which thoſe philoſophers can raiſe; and they will not, I hope, have any reaſon to complain, that I have weakened it in the repre-ſentation. But it requires only to be more cloſe-ly examined, in order to ſhew how very weak it

is in itſelf. This will appear from the bare repetition of what I have before ſaid upon this ſubject.

LXXII.

An anſwer to the objection of the Epicureans, who aſcribe all to chance.

WHAT would one ſay of a man who ſhould applaud himſelf upon the ſubtilty of his philoſophy, and yet ſhould maintain, upon his coming into a houſe, that it was made by chance; and that art and induſtry had no concern in rendering it commodious to man? The reaſon he muſt give for what he affirmed, could be only this: that ſince there are caves, ſomewhat like that houſe, which were not dug by man; therefore this houſe, as well as the caves, muſt be the work of chance. To ſuch a reaſoner one would ſhew all the parts of the houſe, and diſcourſe on them to this effect: 'Do you ſee, Sir, this great court-'gate? It is larger than any door of the houſe, 'that coaches may be admitted through it. The 'court itſelf is ſpacious enough for the coaches 'to turn in, that they may go out of it again. 'The ſteps of this ſtair-caſe are low and equal, 'that you may aſcend it without labour. You 'are conducted by it to the ſeveral ſtories and a-

'partments, of which the houſe conſiſts. The 'windows, opened at certain regular diſtances, 'enlighten the whole building. They are glaz- 'ed, you ſee, that the wind may not enter to- 'gether with the light; but they can be opened 'at pleaſure, when the weather is fair, to let in 'as much freſh air as you deſire. The roof is 'contrived to defend the whole building from 'the injuries of the weather. The rafters are 'made ſloping, and terminate in a ridge, that 'the rain and ſnow may eaſily run off on both 'ſides. The tiles are laid one over another, 'that they may entirely cover the timber-work. 'The ſeveral floors make ſo many ſtories, by 'which means a great number of rooms are form- 'ed over a ſmall ſpace of ground. The chim- 'nies are contrived to make fires in, when the 'weather is cold, without burning the houſe; 'and to let out the ſmoke, that it may not offend 'thoſe who are warming themſelves. The a- 'partments are diſtributed in ſuch a manner, 'that one does not incommode another; that the 'ſeveral perſons of a numerous family may lodge 'ſeparately, and not go through the chambers 'of each other; and that the maſter's apartment 'is the principal, and moſt commodious of all. 'There are kitchings, offices, ſtables, and coach- 'houſes. The rooms are furniſhed with beds to 'lie on, chairs to ſit on, and tables to write and

'eat on. Sure, Sir, (one would ſay to ſuch a 'philoſopher) this work muſt have been con- 'ducted by ſome able architect: for every thing 'in it is agreeable, delightful, juſtly proportion- 'ed, and convenient. He muſt, beſides, have 'had ſkilful artiſts to work under him.—— Not, 'in the leaſt, (our philoſopher would anſwer) 'you are very ingenious in deceiving yourſelf. 'The houſe, it is true, is, as you ſay, agreeable, 'pleaſant, regular, and commodious: but yet 'this houſe made itſelf, with all its apartments 'and proportions. It was chance that put toge- 'ther all the ſtones in that fine order: chance 'raiſed the walls, framed and laid the timber- 'work, opened the windows at due diſtances, 'and placed the ſtair-caſe as it ſtands. Do not 'credulouſly perſuade yourſelf that any human 'hand had the leaſt concern in the whole affair. 'Men have only availed themſelves of a work 'that they found ready made, and converted it 'to their own uſe. They fondly fancy it was 'made for them, becauſe they obſerve in it things 'that they know how to turn to their own con- 'veniency; but all that they aſcribe to the deſign 'of an imaginary architect, is mere invention, 'a conceit come into their heads ſince the work 'was done. This houſe, regular as it appears, 'well proportioned as all the parts of it are found, 'was made juſt in the ſame manner as a rude

'cave: and men finding it as it is, and perceiv-
'ing it would anſwer their purpoſe, only make
'uſe of it for their occaſions, as they would of a
'cave, which they ſhould find in a rock amidſt a
'deſert, during a ſtorm.'

WHAT could one think of ſuch a whimſical philoſopher, if he ſhould perſiſt ſeriouſly in his doctrine, and aſſert, that there is no appearance of art in ſuch a houſe? When we read the fable of *Amphion*, who, by a miraculous effect of harmony, cauſed the ſtones to riſe, and dance into order and ſymmetry one over another, till they had formed the walls of *Thebes*; we cannot forbear laughing at the poetical fiction: but this very fiction is nothing near ſo incredible, as that which our philoſopher takes upon him to defend. Imagination, at leaſt, might form ſuch an idea of harmony, which conſiſts in a local motion of certain bodies, as that, by ſome of thoſe ſecret powers in nature, which are admired without being underſtood, it ſhould actuate the ſtones with a kind of order and cadence, ſo as to occaſion ſomewhat of regularity in the building. We muſt own, indeed, that this explanation is ſhocking to reaſon, which by no means can embrace it: but yet, it is leſs extravagant, after all, than that which I have put into the mouth of our pretended philoſopher. Can any thing be more abſurd,

than the conceit of ſtones that hew themſelves, that of themſelves iſſue out of the quarry, that ariſe and place themſelves one upon another, without leaving any vacuity betwixt; that carry with them mortar, for their own cement; that diſpoſe themſelves in ſuch manner, as to form regular and diſtinct apartments; and, finally, that admit a frame of timber-work upon them, and tiles over that, in order to cover the whole ſtructure? The very children, who cannot yet ſpeak plain, would laugh us to ſcorn, were we to propoſe to them ſuch a ridiculous fable for their belief.

LXXIII.

Compariſon of the world with a regular houſe. Sequel of the anſwer to the Epicurean objection.

IS there leſs room to laugh at him, who ſays the world made itſelf, than at him who affirms the ſame thing of our fabulous houſe? The point is, not to compare the world with a rude cavern, void of regular form, which may be ſuppoſed to be made by chance: our buſineſs is to compare it with a houſe, in which the moſt perfect architecture ſhines forth conſpicuouſly. The ſtructure of the ſmalleſt animal is infinitely more art-

ful, more admirable, than that of the moſt beautiful houſe that ever was built.

SUPPOSE a traveller entering *Said*, or *upper Egypt*, the country where the antient *Thebes*, with its hundred gates, once ſtood, but which is now a deſert. Upon ſeeing the columns, pyramids, obeliſks, and inſcriptions in unknown characters, which he might find there, would he immediately ſay; this place was never inhabited by men; no human hand had any thing to do in all this; it was chance that formed theſe columns, that erected them on their pedeſtals, and crowned them with capitals ſo juſtly proportioned to their height; it was chance that ſo firmly joined together the pieces which compoſe thoſe pyramids; it was chance that cut the obeliſks out of a ſingle ſtone each, and engraved on them all thoſe characters? Would he not, on the contrary, ſay, with all the confidence that human certainty, built on the ſtrongeſt evidence, can give: theſe magnificent ruins are the remains of a moſt majeſtic kind of architecture, which flouriſhed in antient *Egypt*. This is what plain reaſon would ſuggeſt, at the firſt glance of the eye, without entering into the leaſt deduction of arguments. It is juſt the ſame thing with regard to the univerſe, upon the ſlighteſt proſpect we can take of it. A man may puzzle himſelf by vain ſyllogiſms, and

induſtriouſly confound and obſcure the cleareſt notions in his own breaſt; but a ſingle glance of the eye, in this caſe, is deciſive. Such a work as the world is, never did, never can create itſelf. The bones, the tendons, the veins, the arteries, the nerves and muſcles that compoſe the human body, have together and ſeverally more art and proportion in their formation, than all the architecture of the antient *Greeks* and *Romans*. The eye of the moſt minute animal ſurpaſſes infinitely all the mechaniſm of all the moſt curious artiſts united. If a man were to find a watch in the ſands of *Africa*, would any one have the aſſurance to ſay, it was formed by chance in that dreary deſert? And yet there are men, who do not bluſh to affirm, that the bodies of animals, in compariſon with which the moſt exquiſite watch is void of art, are the wild effects of nothing but a blind capricious chance.

LXXIV.

Another objection of the Epicureans, drawn from the eternal motion of atoms.

I KNOW there is another objection, which the Epicureans may draw from their own method of arguing. 'The atoms, or particles of matter, 'they will ſay, have an eternal motion. Their

'fortuitous concurrence, in that eternity, muſt 'already have produced infinite combinations. 'He that ſays infinite, uſes a word that compre- 'hends all, without exception. Among theſe 'infinite combinations of atoms, which have al- 'ready ſucceſſively happened, all ſuch as are poſ- 'ſible, therefore, muſt of neceſſity be found: 'for if there were but one poſſible combination, 'which had not taken place in this infinite, it 'would ceaſe to be a true infinite; becauſe ſome- 'thing might be added to it; and becauſe what- 'ever may be augmented, if limited on the ſide 'that is ſuſceptible of augmentation, is not tru- 'ly infinite. Hence it follows, that the combi- 'nation of atoms, which conſtitutes the preſent 'ſyſtem of the world, is one of thoſe combinati- 'ons that have happened in this courſe of ſucceſ- 'ſion. This being eſtabliſhed as a principle, 'need we to wonder at the exiſtence of the world 'in its preſent ſtate? It was neceſſary it ſhould 'take this very form, ſooner or later, that it 'now has: for, among thoſe infinite changes, 'it muſt, at ſome time or another, fall on this 'very combination, which makes it now appear 'ſo regular; ſince it muſt have had, by turns, 'all combinations that are poſſible, and can be 'conceived. All ſyſtems are comprehended in 'the total of eternity, and every one of them, 'ſooner or later, muſt reſult from the particular

'concurrence of atoms productive of it. Nature 'preſents an infinite variety of new ſpectacles; 'and among them this, which we now ſee, and 'in which we actually are, came forth in its turn 'and order. The concourſe and motion of a-'toms, which thus made, will, in time, un-'make it; in order to form innumerable others, 'and of all poſſible kinds. This ſyſtem unavoid-'ably found its place, ſince not this only, but 'all others, without exception, muſt have theirs 'in turn. It is in vain to look for a chimerical 'art in ſuch a work as this, which chance could 'not fail of producing juſt as it is.

'One example will ſuffice to illuſtrate this. I 'ſuppoſe an infinite number of combinations of 'the letters of the alphabet, formed ſucceſſively 'by chance. Doubtleſs, all poſſible combinati-'ons are comprehended in that total, which is 'truly infinite. Since it is certain, therefore, 'that the Iliad of *Homer* is nothing but a combi-'nation of letters; it follows, that *Homer's* Iliad 'is comprehended in that infinity of combinati-'ons, made by the characters of the alphabet. 'This being once admitted, the man who pre-'tends to diſcover art in the Iliad, muſt be a ve-'ry bad reaſoner. He may extol, as much as 'he thinks fit, the harmony of the verſification, 'the propriety and magnificence of the expreſſi-

'ons, the natural ſimplicity of the images, the 'due proportion of parts, the perfect unity and 'inimitable conduct that ſtrike him throughout 'the poem. He may aver, that chance can ne-'ver produce any thing ſo perfect; and that no-'thing leſs than the utmoſt effort of human geni-'us, as it appears in the moſt extraordinary men, 'is ſufficient to give the finiſhing hand to ſo ex-'cellent a performance. But his triumph is ut-'terly vain and groundleſs, ſince the reaſon it is 'founded on is evidently falſe. It is certain, at 'the ſame time, that chance, or the fortuitous 'concourſe of characters, being aſſembled and 'mingled together in all the poſſible poſitions of 'an infinite variety, muſt in one of thoſe poſiti-'ons, or collocations, form that very and preciſe 'combination which makes the Iliad. Whether 'this happen ſooner or later, it neceſſarily comes 'at one time or other: and thus the whole Iliad 'is perfectly compoſed, without the interpoſition 'of human art.' I have fairly ſtated this objecti-on, without weakening it in any one particular. All that I now deſire, is, that the reader will give a ſerious and uninterrupted attention to the an-ſwers I am going to make.

LXXV.

The objection of the Epicureans, drawn from the eternal motion of atoms, fully anſwered.

NOTHING is more abſurd, than to talk of the ſucceſſive combinations of atoms, which are infinite in number. Infinity can never be either ſucceſſive, or diviſible. For inſtance, propoſe to me any number, which you preſume to be infinite; and I ſhall always have two ways to demonſtrate that it is not a true infinite. Firſt, I can ſubtract an unit from it: this will make it leſs than it was, and conſequently prove it to be finite. For whatever is leſs than infinite, has a boundary at the point where we ſtop, beyond which we might proceed by a deeper reſearch. Now the number which appears to be finite, when we ſubtract from it a ſingle unit, could not be infinite before that ſubtraction was made. A ſingle unit is certainly finite; and one finite, added to another finite, cannot make an infinite. If a ſingle unit, added to a finite, would conſtitute an infinite, the conſequence muſt be, that the finite would be almoſt equal to the infinite; which is the very quinteſſence of abſurdity. Secondly, I can add an unit to the given numbers, and conſequently augment it. Now that which may be

augmented, cannot be infinite: for infinity can have no bound; and that which is capable of augmentation, is bounded on the ſide where the calculator ſtops, when he might proceed farther, and ſtill add unity to his number. It is evident then, that no diviſible compound can be the true infinite.

THIS foundation being once laid, all the romance of the *Epicurean* philoſophy diſappears in a moment. It is impoſſible there can be any diviſible body, which is truly infinite in extent; or any ſucceſſion of numbers, which is truly an infinite number. And, from hence it follows, that there never can be ſuch a ſucceſſive number of combinations of atoms, as amounts to infinity. If this chimerical infinite were indeed real, I acknowlege that all poſſible and conceivable combinations of atoms would be included in it; and conſequently, that all thoſe combinations, which ſeem to require the utmoſt art and induſtry, would of courſe be comprehended in it likewiſe. If this were the caſe, the moſt wonderful performances of art might boldly be aſcribed to mere hazard or chance. He who ſaw palaces built according to the moſt perfect rules of architecture, the moſt curious furniture, watches, clocks, or machines the moſt nice and variouſly compounded, in the midſt of a deſert iſland, would have no juſt room

to conclude, that there had been men in that iſland, and that thoſe exquiſite works were performed by them. On the contrary, it would become him better to ſay, perhaps one of thoſe infinite combinations of atoms, which have been ſucceſſively made by chance, accidentally produced all theſe compoſitions in this deſert iſland, without the leaſt intervention of human induſtry. Such an aſſertion as this, would be a very juſt conſequence, drawn from the principles of the Epicureans. But the manifeſt abſurdity of this conſequence, is ſufficient to prove the abſurdity of the principles they endeavour to eſtabliſh. When men, by the natural rectitude of their common ſenſe, conclude that ſuch ſort of works cannot reſult from chance, they evidently ſuppoſe, though in a confuſed and indiſtinct manner, that atoms are not eternal; and that they never had, nor can have, an infinite ſucceſſion of combinations in their fortuitous mixture and jumble. For if this principle were once admitted, it would be impoſſible ever to diſtinguiſh the works of art from the works of chance; that is, from the productions of thoſe fortuitous combinations, which are altogether as independent on art, as the produce of a caſt with a number of dice.

LXXVI.

The Epicureans confound the works of art with thoſe of nature.

SINCE all men naturally ſuppoſe a ſenſible difference betwixt the works of art, and thoſe of chance; they conſequently ſuppoſe, though without examination, that the combinations of atoms have not been infinite; and this ſuppoſition is extremely juſt. That infinite ſucceſſion of combinations in atomic bodies, is, as I have already ſhewn, a more abſurd chimera in itſelf, than all the abſurdities which thoſe, who adopt that falſe principle, would explain by it. No number, either ſucceſſive or continual, can be infinite: from whence it follows, that atoms cannot be infinite in number; that the ſucceſſion of their various motions, and combinations, cannot be infinite; that the world cannot have been from eternity; and that ſome preciſe and determinate beginning of theſe ſucceſſive combinations muſt be found. A firſt individual, in the generations of every kind, muſt be admitted. The firſt form, that originally belonged to every particle of matter, muſt be inveſtigated. And as the ſucceſſive changes of that matter, muſt be limited in number, we muſt not admit, in thoſe changes, any other

combinations, than ſuch as chance ordinarily produces: unleſs we acknowlege a ſupreme wiſdom, who, with the moſt perfect art, created all thoſe wonderful works which chance could never have produced.

LXXVII.

The Epicureans take for granted whatever they pleaſe, without recurring to evidence.

THE Epicurean ſyſtem is ſo very weak, that the philoſophers who profeſs it can never bring it into any form, or make it paſs with the leaſt ſhadow of plauſibility, if we do not grant them, without proof, all their moſt fabulous poſitions. Their very firſt poſtulatum, that atoms are eternal, is a mere begging the queſtion: for, whence do they learn, that atoms did always exiſt, or are ſelf-exiſtent? To be ſelf-exiſtent, is the ſupreme perfection: and what authority have they to ſuppoſe, without evidence, that atoms have, in themſelves, a perfect, eternal, and immutable exiſtence? Do they find this perfection in the idea they have of every atom in particular? One atom not being the ſame with, but abſolutely diſtinct from, another, each of them muſt have in itſelf, without reſpect to any other being, both eternity and independency. Repeat the queſtion: is it

in their idea of each atom, that theſe philoſophers find this perfection? Let us then, for once, grant them all that they demand in this queſtion, and even more than it becomes them to demand: let us ſuppoſe, that atoms are eternal, ſelf-exiſtent, independent of all other beings, and, of conſequence, entirely perfect.

LXXVIII.

The ſuppoſitions of the Epicureans are falſe and chimerical.

HAVING granted thus much, muſt we farther ſuppoſe, that atoms have motion of and from themſelves? Shall we, merely for diverſion, admit this too, in order to give an air of reality to a ſyſtem more chimerical than the tales of the fairies? Let us conſult that idea of body, which we find in ourſelves. We have a perfect conception of it, without adding the idea of motion. We repreſent it to ourſelves as in a ſtate of reſt; and our idea of it, in that ſtate, with all its parts, its figures, and its dimenſions, is not leſs clear than when we conceive it to move. Vain is the ſuppoſition, that all bodies are perpetually in ſome motion, either ſenſible or inſenſible; and that though ſome parts of matter have leſs of this motion than others, yet the univerſal maſs of mat-

ter, at leaſt, has for ever the ſame motion conſidered in its totality. Talking at this rate, is talking to the wind; and requiring belief to all our wild imaginations: for, where do we learn this law of matter, that it moves continually in the whole of it? Who has arrived at the knowlege of this by experience? Have they the confidence to beſtow the name of philoſophy on a raſh fiction, which takes for granted things that can never be verified? Is it ſufficient to elude the moſt ſimple and conſtant truths, that a man takes upon him to ſuppoſe, whatever his fancy coins? Have they any authority to conclude that all bodies move, either perceptibly or imperceptibly, without intermiſſion? When I ſee a ſtone that ſeems motionleſs, how will they demonſtrate to me, that every atom in that ſtone, is actually in motion? Will they never give me convincing teſtimonies, but require me always to eſpouſe bare ſuppoſitions, without the leaſt ſemblance of truth?

LXXIX.

It is a falſe poſition, that motion is eſſential to bodies.

LET us, however, proceed yet farther: let us ſuppoſe, in mere complaiſance, that all the

bodies in nature do always actually move. Does it follow from thence, that motion is eſſential to every particle of matter? Beſides, if all bodies have not an equal degree of velocity, but ſome move more ſenſibly and more rapidly than others; if the ſame body may at ſome times move more ſwiftly, and at others more ſlowly; if a body that moves, communicates its motion to the body next in contact, which before was at reſt, or had ſuch an inferior degree of motion that it was inſenſible; we are obliged to confeſs, that a manner of exiſtence, which at one time augments, at another decreaſes, in the bodies that have it, is not eſſential to them. That which is eſſential to a being, is always the ſame in that being. The motion which varies in bodies, and which, after having ſenſibly increaſed, ſlackens and abates, till it appears abſolutely annihilated; the motion which is loſt, which is communicated, which paſſes from one body to another as ſomething extraneous to it, cannot pertain to the eſſence of bodies. I ought to conclude, therefore, that bodies are perfect in their eſſence, though no motions be aſcribed to them. If motion be not in their eſſence, they have it only by accident; and if they have it only by accident, we muſt purſue our reſearches to the true cauſe of that accident. It is neceſſary, that bodies ſhould either beſtow motion on themſelves, or receive it from ſome

other being. It is evident, that they do not beſtow it on themſelves, ſince no being can give that to, which it has not in, itſelf. Our eyes convince us, that a body at reſt, continues ever motionleſs, if ſome other neighbouring body does not give it an impulſe. It is therefore certain, that no body moves of itſelf, and that one body is moved only by the motion of another communicated to it. But how comes it to paſs, that one body can communicate motion to another? Whence proceeds it, that one ball, which is made to roll on a ſmooth table, cannot touch another without moving it? Why was it not poſſible that motion ſhould exiſt, and yet not be communicable from one body to another? If that were the caſe, a ball in motion would immediately ſtop at the firſt contact with another, yet never ſhake or ſtir it.

LXXX.

The rules of motion, which the Epicureans ſuppoſe to exiſt, do not render it eſſential to bodies.

I FORESEE the anſwer that will here be made. It is, that the laws of motion among bodies render it neceſſary, that one ſhould communicate it to another. But where are thoſe laws of motion written? Who was it that made them,

and rendered them ſo inviolable? They are not eſſential to bodies: for we can conceive bodies at reſt; and we have even a conception of bodies, which would not thus communicate their motion, if the ſaid laws, the ſources of which are unknown to us, did not ſubject them to it. Whence proceeds this ſcheme of policy, a ſcheme that we may call arbitrary, which thus governs the motion of all bodies? Whence proceed thoſe laws ſo ingenious, ſo juſt, ſo reciprocally adapted to each other, that the leaſt deviation from them would at once deſtroy all that beautiful order, which we admire in the univerſe? One body being entirely diſtinct from another, it is by nature, in all reſpects, abſolutely independent of it. Whence it follows, that one body ought to receive nothing from another, nor to be ſuceptible of any of its impreſſions. The modifications of one body imply no neceſſity for the modification of another in the ſame manner; that other being, in its exiſtence, entirely independent of the firſt. It is in vain to alledge, that the moſt ſolid and weighty maſſes bear away with them thoſe that are leſs groſs and ſolid; and that, in conſequence of this rule, a large leaden ball ought to move a ball of ivory. It is not the fact that we are diſcourſing of, but the cauſe why that fact happens. The fact is conſtant and uniform; the cauſe, therefore, ought to be equally certain and pre-

ciſe. Let us ſearch for it without prepoſſeſſion, and with an abſolute diſtruſt of all our own prejudices. What, I ſay, is the reaſon, that a great body bears off a little one? Quite the reverſe of this might as naturally happen, for any thing we know of nature. The fact might as well be, that the moſt ſolid body ſhould not give motion to another; or, in other words, that motion ſhould be incommunicable. Our concluſion, that nature ought to act as it does, is a prejudice contracted only by cuſtom.

LXXXI.

We muſt have recourſe to a firſt mover, if we would give a ſatisfactory account of motion.

WE have ſeen, moreover, that matter can neither be infinite, nor eternal. It is neceſſary then, that there muſt be a firſt atom, by which motion began at a certain inſtant of time; and a firſt concurrence of atoms, which formed the firſt combination. This being proved, I aſk, who was the mover that gave motion to the firſt atom, and firſt ſet the machine of the univerſe a going? It is not poſſible to elude this queſtion, which comes ſo home to the point, by talking of an endleſs circle. That circle, being circumſcribed within finite bounds, hath plainly ſome cer-

tain limit. We muſt therefore find out the firſt atom that moved, and the firſt moment of this firſt motion, together with the firſt mover, whoſe hand gave that firſt impulſe.

LXXXII.

No law of motion hath its foundation in the eſſence of bodies; and moſt of thoſe laws are merely arbitrary.

AMONG the laws of motion, we muſt look upon all thoſe, which we cannot account for by the eſſence itſelf of bodies, as merely arbitrary. We have already demonſtrated, that no motion is eſſential to any body. All thoſe laws, therefore, which are looked upon as eternal and immutable, are, on the contrary, arbitrary, accidental, and inſtituted without neceſſity: for we cannot find the reaſon of any one of them in the eſſence of bodies.

DOUBTLESS, if there were any law of motion eſſential to bodies, it would be that by which bodies of leſs magnitude, and leſs ſolidity, are moved by ſuch as are more bulky and ſolid: and yet we have ſhewn, that even that law is not to be accounted for by the eſſence of bodies. There is another of thoſe laws, which might alſo ap-

pear very natural: I mean that, by which bodies always move in a direct, rather than a curve line, unleſs their motion be otherwiſe determined by the contact or influence of other bodies. But neither has this rule, any more than the former, any foundation in the eſſence of matter. Motion is in itſelf ſo accidental, ſuch a ſuperaddition to the nature of bodies, that this nature of bodies doth not diſcover to us any primitive or immutable law, by which they ought to move at all; much leſs, that they ought to move according to certain rules. Like as bodies might have exiſted, and yet never have moved, or communicated motion to others; ſo might they never have moved but in a circular line; and that circular motion might have been as natural to them, as motion in a direct line. Who then is it, that has made a choice betwixt theſe two laws, which were both equally poſſible? That which is not determined by the eſſence of bodies, can have been determined only by him, who gave to bodies motion itſelf, which is no part of their eſſence. We may add, that this rectilinear motion might have been upwards or downwards, from right to left, or from left or right, or even in a diagonal line. Let them tell me who it was, that determined which way the direct line ſhould tend?

LXXXIII.

If we ſhould even grant all the ſuppoſitions of the Epicureans, they can draw no conſequence from them.

LET us not be weary of the chace, but follow theſe Epicureans in the wildeſt of their ſuppoſitions: Let us carry on the fiction to the utmoſt exceſs of complaiſance, and even admit, that motion is eſſential to bodies: let us ſuppoſe, as they do, that this motion, eſſential to bodies, is alſo eſſentially in a right line. Let us beſtow on atoms both an underſtanding and a will; as the poets formerly gave them to rocks and rivers. Let us farther allow them to chuſe from what point they will begin their right line. What advantage, at laſt, will our philoſophers draw from all theſe conceſſions, which contradict all evidence? It will be neceſſary, in the firſt place, that all the atoms muſt have been in motion from all eternity. Secondly, That they muſt all have moved with equal velocity. Thirdly, That they muſt all have moved in a right line. And, Fourthly, That they muſt have done all this, in conſequence of an immutable and eſſential law.

I AM willing to condeſcend farther, and ſuppoſe, of mere indulgence, that thoſe atoms are of different figures: for I will ſuffer our adverſaries to take for granted all that is incumbent on them to prove, ſince they have not ſo much as the ſhadow of a proof for any one part of their doctrine. A man can never make too many conceſſions to ſuch perſons, as cannot draw any one conſequence from all that is granted them: for the more abſurdities are allowed them, the ſooner are they enſnared by their own principles.

LXXXIV.

According to the motion which the Epicureans aſſign to atoms, they can never compoſe any body.

THESE atoms, of ſo many various and odd figures, curved, hooked, round, or angular, are by their eſſence obliged always to move in a right line, without ever deviating or inclining either to the right or the left. They can never, therefore, hook or entangle one another; nor compoſe a body by their union together. Put as many hooks as you pleaſe, as near as you pleaſe to one another, and let them be ever ſo well adapted to catch hold; yet, if every one of them muſt for

ever move in a line perfectly ſtrait, they will move eternally near one another in parallel lines, without once joining or cohering together. The two ſtrait lines, which are ſuppoſed to be parallels, though ever ſo near neighbours, will never croſs each other, ſhould you carry them on to infinity. Even eternity itſelf could not therefore produce any contact, any faſtening of theſe hooks in one another; nor conſequently any compoſition, from this motion of atoms in a direct line.

LXXXV.

The Clinamen, *or inflexion of atoms in their courſe, is a mere chimera; which plunges the Epicureans into a groſs contradiction.*

THE Epicureans, not being able to ſhut their eyes againſt the evidence of this objection, which ſaps the foundation of their whole ſyſtem, have had recourſe to another invention, as their laſt reſort. This is what *Lucretius* call the *Clinamen*; a word that ſignifies a motion ſomewhat declining from a right line, and which gives to atoms the means of croſſing and intercepting each other. Thus they turn them at their pleaſure, and juſt as their imagination ſuggeſts the moſt plauſible method of coming to their point. But where are

they taught this declination of atoms, which comes in ſo opportunely to ſave their ſyſtem? If a ſtrait line in motion be eſſential to bodies, nothing can divert, incline, nor conſequently join them, to all eternity. This *Clinamen* violates the very eſſence of matter, and leads our philoſophers into the moſt ſhameful contradiction. If, on the contrary, a right line in motion be not eſſential to all bodies; why do they ſo confidently attack us with their eternal, neceſſary, and immutable laws of motion in atoms, without recurring to a firſt mover? And why do they build a whole ſyſtem of philoſophy upon the precarious foundation of a ridiculous fable? Without the *Clinamen*, the right line can never effect any thing, and the whole ſyſtem falls to the ground. With the *Clinamen*, an invention not leſs fabulous than thoſe of the poets, the right line is broke in upon, and the ſyſtem becomes ridiculous.

Both the one and the other, the right line and the *Clinamen*, are wild ſuppoſitions, and empty dreams: but thoſe two dreams mutually deſtroy each other. This is the final reſult of that unbridled licence, which ſome men take, when they ſuppoſe, whatever their imagination ſuggeſts to them in ſupport of a fable, to be an eternal truth; while they refuſe to acknowlege that art, by

which all the parts of the univerſe were formed, and diſpoſed in their preſent beautiful order.

LXXXVI.

A ſtrange abſurdity of the Epicureans, who pretend to account for the nature of the ſoul, by the declination of atoms.

TO complete our wonder, and their own extravagance, the Epicureans have dared (ſince they had no other means) to explain by this *Clinamen*, which in itſelf is inexplicable, that which we call the ſoul of man, and his free-will. Yes, they are at laſt reduced to the neceſſity of affirming, that it is in this motion, which keeps the atoms in a kind of equilibre betwixt a ſtrait line and a line ſomewhat curve, that human will conſiſts. How ſtrange is this philoſophy, which teaches, that if atoms move only in a right line, they are inanimate, incapable of every degree of knowlege, and of will; but the ſame atoms, if they make but a ſmall declination from that line, are at once animated, capable of thought, and rational! They are themſelves intelligent ſouls, ſelf-knowing, ſelf-conſcious: they reflect, they deliberate, they are free in their actions and determinations. Was a more abſurd metamorphoſis ever invented? What would become of religion, what a handle

would be given to infidels, if, in order to prove it, we were obliged to proceed on principles ſo puerile and falſe, as thoſe of the philoſophy which dares to attack it ſeriouſly, and in earneſt?

LXXXVII.

The Epicureans ſhut their own eyes, when they endeavour to explain the liberty of man by the inflexion of atoms.

BUT let us obſerve how far theſe philoſophers impoſe on their own underſtandings. What is it they find in their *Clinamen*, that can with the leaſt air of probability account for the liberty of man? This liberty is not imaginary: we muſt doubt of every thing that is moſt certain, and of which we are the moſt intimately conſcious and ſenſible, if we call in queſtion our own free-will. I am conſcious that when I riſe, in order to walk, I am free to continue ſitting. I perceive this with ſuch fulneſs of certainty, that it is not in my power ever to doubt of it ſeriouſly. I ſhould give the lye to my own ſentiments, if I were to dare aſſert the contrary. Can religion have a more evident and indiſputable proof than this? We cannot doubt of the exiſtence of God, unleſs we doubt of our own liberty. From whence I infer,

that no man can doubt in earneſt of the exiſtence of a God, ſince no man can harbour a ſerious doubt with regard to his own liberty. On the contrary, if it be frankly and candidly acknowleged, that men are truly free; nothing is more eaſy than to demonſtrate, that the liberty of human will cannot conſiſt in any combination of atoms, without admitting a firſt mover, who impoſed on matter arbitrary laws for its motion. Otherwiſe, motion muſt be eſſential to bodies, and all the laws of motion muſt be as neceſſary as the eſſences of corporeal natures. According to this ſyſtem, then, all the motions of bodies muſt be performed by conſtant, neceſſary, and immutable laws. The motion in a right line muſt be eſſential to all atoms, that are not diverted from it by the concurrence of other atoms: this ſtrait line ought to be eſſential in ſome certain, fixed, immutable direction; either upwards or downwards, from right to left, from left to right, or in a diagonal from ſome preciſe point. Beſides, it is evident, that no one atom can divert another from its courſe: for that other atom bears alſo in its eſſence the ſame eternal and invincible determination, which in the ſame manner reſtrains it to the direct line. From whence it follows, that all the atoms, diſpoſed at firſt on different lines, muſt purſue to infinity thoſe parallel directions, without ever coming nearer to the contact of each

other; and that thoſe that are in the ſame line muſt eternally follow, without overtaking one another; but ſtill preſerving the ſame exact diſtance, with which they began to move. The *Clinamen*, as we have already ſhewn, is manifeſtly impoſſible: but ſhould we ſuppoſe, contrary to the cleareſt evidence of truth, that it was poſſible, we ſhould then be obliged to aſſert, that the *Clinamen* is not leſs neceſſary, immutable, and eſſential to atoms, than the right line itſelf. And will any one pretend to ſay, that the true liberty of man can be explained by a neceſſary, eſſential, and immutable law concerning the local motion of atoms? Does not every one ſee, that it is no better accounted for by the *Clinamen*, than by the right line? Were the *Clinamen* true, it muſt be as neceſſary as the perpendicular line, by which a ſtone falls from the top of a tower into the ſtreet. Is that ſtone free in its fall or deſcent? Now the will of man, upon the principle of the *Clinamen*, is not more free than the ſtone. Is it by ſuch poſitions as theſe that man dares to give the lye to his own conſcience, on the ſubject of his own free-will, that he may not be obliged to acknowlege his God? To ſay, on the one hand, that the liberty of man is imaginary, we muſt ſilence the voice, and ſtifle the ſentiments of nature; we muſt ſhamefully give the lye to our own perceptions, and deny that truth, of which we

are the moſt intimately certain; in a word, we muſt prevail on ourſelves to believe, that we have no choice betwixt two objects, even when we deliberate on them with the utmoſt attention and ſeriouſneſs. Nothing is more glorious to the cauſe of religion, than thoſe monſtrous abſurdities, and groſs contradictions, which men of neceſſity fall into, whenever they call in queſtion the divine truths, which ſhe teaches! On the other hand, to confeſs that man is truly free, is to acknowlege in him a principle, which can never be ſatisfactorily explained by the combinations of atoms, or the laws of local motion; ſince theſe combinations and laws, if we once deny a firſt mover, muſt be all ſuppoſed equally neceſſary, and eſſential to matter. We muſt therefore ſoar beyond the whole ſyſtem of matter, and far remote from the combinations of atoms ſearch for ſome incorporeal principle, in order to account for human free-will, if we admit it in earneſt. Whatever is matter, whatever we can call an atom, moves only by laws that are neceſſary, immutable, and irreſiſtible: liberty, therefore, cannot be found, either in bodies, or in any local motion: and the conſequence is, that we muſt look for it in ſome incorporeal being. This incorporeal being, which muſt neceſſarily be in me, united to my body; by whoſe hand was it bound, and ſubjected to the organs of this corporeal ma-

chine? Where is that artificer, who unites together natures ſo very different? Muſt it not be a power, ſuperior both to bodies and ſpirits, which can hold them firm in this union, with ſo abſolute a ſway? 'Two hooked atoms, ſays an Epi-'curean, lay hold of one another.' But this very fact is falſe, according to his own ſyſtem: for I have demonſtrated, that theſe hooked atoms can never faſten on each other, becauſe it is impoſſible they ſhould ever meet. After this, however, having allowed theſe two atoms to hook one another, and ſo become united; the Epicurean muſt ſtill acknowlege, that the thinking being, which is free in its operations, and of conſequence not a mere texture of atoms, for ever moved by neceſſary laws, is incorporeal, and could not, by any particular configuration of it, be hooked into union with the body it animates. Thus, the Epicurean, which way ſoever he turns, deſtroys his own ſyſtem with his own hands. But let us be careful that we do not, by any means, perplex and confound men who err; ſince we are men as well as they, and not leſs ſubject to error. Let us only compaſſionate their caſe, and ſtudy, with patience, to enlighten and edify them. Let us pray for their conviction, and yet perſevere in aſſerting the truth, which appears with ſuch ſtrong evidence.

LXXXVIII.

It is neceſſary to acknowlege the hand of a firſt cauſe in the univerſe, without inquiring whether that firſt cauſe has left any defects in his work.

THUS the ſtamp of the divinity appears upon every thing in the univerſe: the heavens, the earth, vegetables, animals, and men more than all the reſt, viſibly bear it. The whole ſhews us a fixed deſign, a concatenation of ſubordinate cauſes, which are all conducted with order by one ſuperior cauſe.

IT is by no means our buſineſs to criticiſe this great work. The defects which are found in it, proceed either from the licentious and diſorderly will of man, which produces them by its irregularity; or from the ever holy and juſt will of God, who ſometimes hath a mind to puniſh incredulous men, and at other times to exerciſe and perfect the good by means of the wicked. Nay, it often happens, that that which ſeems a defect to our limited underſtandings, in ſome ſeparate and diſtinct part of the work, is really an ornament with reſpect to the general deſign; which we are not able to ſurvey with views ſufficiently extenſive,

and at the ſame time ſufficiently ſimple to comprehend the perfection of the whole. Does it not happen every day, that we raſhly cenſure certain parts of human workmanſhip, for want of having a thorough inſight into the full deſign of the artiſt? This is particularly true with regard to the works of painters, and architects. If the characters we uſe in writing were of immenſe magnitude, every character at cloſe view would take up the whole compaſs of a man's ſight; ſo that it would be impoſſible for him to ſee more than one at once. He would find it impracticable, in this caſe, to read, that is, to join ſeveral characters together, and diſcover the ſenſe of all thoſe characters united. It is juſt the ſame with the large ſtrokes of providence, which it forms in the conduct of the whole world, during a long ſucceſſion of ages. There is nothing intelligible but the whole, and that whole is too vaſt to be comprehended in a cloſe view. Every event is like a particular character, which is too large for our minute and contracted organs; and which ſignifies nothing alone, diſtinct from the reſt. When, at laſt, in the conſummation of ages, we ſhall ſee in God, that is, in its true point of view, the total of human events, from the firſt to the laſt day of created nature, together with their proportions in regard to the deſigns of God, we ſhall cry out with tranſport, 'Lord, thou alone art juſt and

'wiſe!' A true judgment cannot be formed of the works of man, without examining the whole: every part ought not to have every perfection; but only that which ſuits it in the place it muſt occupy, and which juſtly belongs to it in proportion to the other parts, which with it compoſe the whole. In a human body, for example, all the parts muſt not be eyes; becauſe hands and feet are alſo neceſſary. In the univerſe, there muſt be a ſun for the day; but then there muſt be a moon alſo for the night. 'A perfect 'univerſality cannot appear to us, unleſs the 'greater parts be in ſuch manner preſent, that 'the leſſer are not wanting or hidden*.' In this manner we ought to judge of every part, with reſpect to the whole. Any other view is defective and fallacious. But what are the feeble deſigns of men, if we compare them with that deſign, by which the world was created, and hath ever ſince been governed? God himſelf tells us, in the ſcriptures, *As far as the heavens are above the earth, ſo far are my ways above your ways, and my thoughts above your thoughts.* Let man, therefore, admire that which he underſtands, and wonder in ſilence at thoſe things which he does not comprehend. But, after all, the real defects

* *Nec tibi occurrit perfecta univerſitas, niſi ubi majora ſic præſto ſunt, ut minora non deſint.*

AUG. de Lib. Arbit.

in this work (for ſuch we muſt admit) are only imperfections which the Almighty was pleaſed to leave in it, to remind us that he called forth the whole out of nothing. There is not any thing in the univerſe, but what does, and ought to bear, equally imprinted on it, theſe two oppoſite characters: on one ſide, the ſeal or ſtamp of the infinite artiſt upon his work; and on the other, the mark of that original nothing from which it was extracted, and into which it may again fall every moment. It is an incomprehenſible mixture of meanneſs and grandeur; of frailty in the matter, and art in the workmanſhip. The hand of God is conſpicuous in every thing, even in a worm that crawls upon the earth: at the ſame time imperfection and nothingneſs every where appear, even in the moſt comprehenſive and ſublime genius. All that which is not God, can have but a limited perfection: and that which has but a limited perfection, remains always imperfect on the ſide where the boundary is perceptible, and denotes a poſſibility of addition and improvement*. The creature would be the Creator himſelf, if it wanted nothing: for it would then have the fulneſs of perfection, which is the divinity itſelf. But as ſoon as it falls ſhort of infinity, it neceſſarily becomes bounded in perfection; or, in

* Aug. *de Ordine.*

other words, it is imperfect on one ſide or the other. It may have a greater or ſmaller degree of imperfection; but, after all, it muſt ſtill be imperfect. We ſhall be capable, at any time, to point out the very place in which it is defective: we ſhall be able to examine it critically, and to ſay, this or that addition it might have had, which is now wanting to it.

LXXXIX.

A compariſon between the defects of the univerſe, and thoſe of a picture.

WE ſee ſhades, and even ſome careleſs touches of the pencil, in a piece of painting: do we from thence conclude, that chance was the author of this picture? The painter, we naturally ſay, might have given a higher finiſhing to this fleſh, to thoſe draperies, and to that back-ground. The picture is not perfect, nor exactly conformable to the rules of art. But what madneſs would it be to infer, that, becauſe the picture is not abſolutely perfect, therefore it is all a mixture of colours thrown together by chance, and without any aſſiſtance from the hand of a painter? Yet, though a man would bluſh to ſay this of a bad picture, on which very little art had been beſtowed; there are men not aſhamed to affirm as much of the u-

niverſe, in which a croud of incomprehenſible wonders ſhine forth, with the utmoſt order and proportion. Let us ſtudy the world as much as we pleaſe; let us be ever ſo particular, in the detail of our inquiries; let us diſſect even the vileſt of animals; let us carefully conſider the ſmalleſt grain of corn ſown in the earth, and the manner in which it germinates and multiplies; let us attentively obſerve with what precautions a roſe-bud opens and expands itſelf before the ſun, and cloſes up again towards night: we ſhall find in each of theſe a deeper deſign, a more artful conduct, and more vigilant induſtry, than in all the works of human art. Nay, even that which we call human art in general, is nothing but a feeble imitation, which men fall into, of that great art called the laws of nature, which the impious are not aſhamed to diſtinguiſh by the name of blind chance. Ought we to wonder, therefore, that the poets have animated the whole univerſe; that they have given wings to the winds, and arrows to the ſun; that they have painted rivers as impetuouſly haſting to precipitate themſelves into the ſea, and trees as ſhooting their branches towards heaven, in order to and quell the rays of the ſun by the denſity of their ſhades? This figurative kind of expreſſion has even been admitted into the language of the vulgar; ſo naturaliſit for men to be ſtruck with that art, of which

all nature is full. All that poetry did, was to aſcribe to inanimate creatures the deſigns of the Creator, who operates all things in them. From the figurative language of the poets, the ſame ideas were tranſplanted into the theology of the heathens, whoſe divines thoſe poets were. They ſuppoſed an art, a power, a wiſdom, ſomething which they denoted by the word *numen*, even in creatures the moſt devoid of underſtanding. With them rivers were gods, and fountains were nymphs, by the name of *Naiades*; woods and mountains had their particular divinities; flowers had their *Pan*, and fruits their *Pomona*. In ſhort, the more we contemplate nature, without prejudice, the more we diſcover in her an inexhauſtible ſource of wiſdom, which is, as it were, the ſoul of the univerſe.

XC.

We muſt of neceſſity conclude, that there is a firſt being, who formed the univerſe.

WHAT [redacted]ſult of all this? The inference ſtrikes [redacted]out ſearching for it. If, as *Minutius Felix* obſerves, ſo much wiſdom and penetration are requiſite, only to obſerve the marvellous order and deſign of the ſtructure of the univerſe; how much more, by parity of reaſon,

were neceſſary to form this univerſe? If philoſophers are ſo much admired, becauſe they diſcover only a ſmall part of the ſecrets of that wiſdom, which made all things; a man muſt be blind indeed, who does not admire that wiſdom itſelf!

XCI.

Reaſons why men do not diſcover God in the univerſe, when he exhibits himſelf to them as in a faithful mirror.

THUS have we tranſiently ſurveyed the great object of the univerſe, wherein God, as in a glaſs, ſhews himſelf to human kind. But there were ſome men, known by the name of philoſophers, whoſe heads were turned with their own thoughts, and who converted every thing to the uſe and ſervice of their own vanity. By mere dint of ſubtle reaſoning [redacted] overſhot the mark, and loſt ſight of an obvious truth, which every man finds naturally and ſimply in himſelf, without the aid of philoſophy.

OTHERS, intoxicated by [redacted]ions, live in a perpetual diſtraction and di[redacted]on of thought. In order to perceive God in his works, it is neceſſary, at leaſt, that we ſhould conſider them with attention. But paſſions blind men to ſuch a de-

gree, not only the wild and ſavage, but even thoſe nations which ſeem to be the moſt civilized and polite, that they do not ſo much as ſee the very light that enlightens them. In this reſpect, the *Egyptians*, the *Greeks*, and the *Romans*, were not leſs blind, or leſs brutal, than the moſt rude and uncultivated *Indians*. Like theſe ſavages, they were wholly ſunk and buried in ſenſible things, without aſcending higher. They cultivated their intellectual faculties only to indulge themſelves in ſofter ſenſations, not regarding the ſource from whence thoſe enjoyments flowed. It is in this manner, that men in general wear away the time they live on earth. If you ſay nothing to them, they think of nothing, except of ſuch ſubjects as flatter their vanity, or their groſs paſſions. Their ſouls grow ſo heavy and unwieldy, that they cannot elevate themſelves to any incorporeal object. Whatever is not palpable, or which cannot be ſeen, taſted, heard, felt, or re[illegible], ſeems to them altogether chimerical. This weakneſs of ſoul, when it improves into infidelity, they conſider as ſtrength of mind, and freedom of thought: their vanity appl[illegible]elf for that perverſeneſs, which conſiſts in [illegible] that which naturally ſtrikes and affects t[illegible] of mankind. In this they have juſt as much reaſon as a monſter would have, who ſhould pride himſelf that he was not formed according to the common laws of nature; or a man

born blind, who ſhould triumph in his incredulity with regard to light and colours, which he was aſſured that other men ſaw and diſtinguiſhed.

A Prayer *to* GOD.

'O MY God! if there are ſo many men who 'do not diſcover thee in this beautiful ſpectacle, 'this proſpect which thou giveſt them of univer-'ſal nature, it is not becauſe thou art far diſtant 'from any of us: every one of us doth, as it 'were, touch thee with his hand: but the ſenſes, 'and the paſſions which they excite, engroſs all 'the attention of our minds. Thus, O Lord, 'thy light ſhineth in darkneſs; but the darkneſs 'comprehendeth it not, ſo thick and gloomy are 'its ſhades. Thou ſheweſt thyſelf every-where; 'and every-where inattentive men neglect to per-'ceive thy preſence. All nature ſpeaks of thee, 'and reſounds with thy holy name: but ſhe ſpeaks 'to men that are deaf, and who owe their deaf-'neſs to the noiſe and diſtrac[illegible]y raiſe about 'themſelves. Thou art near [illegible] even with-'in them. But they wander o[illegible]f themſelves, 'and are fugitives from their own breaſts. O 'thou ſweet light! Thou eternal beauty! Thou 'antient of days, yet ever young! Thou foun-

'tain of chaſte delights! Thou pure and happy 'life of all thoſe who truly live! they would find 'thee, they could not miſs thee, if they did but 'ſearch for thee within themſelves. It is only 'by loſing themſelves, that the impious loſe thee. 'Alas! thy very gifts, which viſibly flow from 'thy bountiful hand, amuſe them to ſuch a de-'gree, that they ſee not the hand which beſtows 'them. It is from thee they live, and yet they 'live without thinking of thee; or rather, they 'die in the midſt of life, for want of nouriſhing 'themſelves with thy preſence: for what death 'can there be more deplorable, than the being 'ignorant of thee? They fall aſleep in thy tend-'er and paternal boſom; and while they are full 'of the deceitful dreams, which agitate them in 'this ſtate of abſence, they are inſenſible of the 'powerful hand that ſupports them. If thou 'wert a barren, impotent, and inanimate body, 'like a flower that fades away, a river that runs 'to waſte, a houſe ready to fall with the decays 'of age, a picture conſiſting only of a maſs of 'colours to ſtrike the imagination, or an uſeleſs 'piece of m[redacted]t only glitters; they would 'perceive [redacted] ſecretly aſcribe to thee the 'power of g[redacted]g them true pleaſure; though, 'in fact, pleaſure, of which thou art the true and 'only ſpring, cannot proceed from inanimate 'things, which have it not in themſelves. Yes,

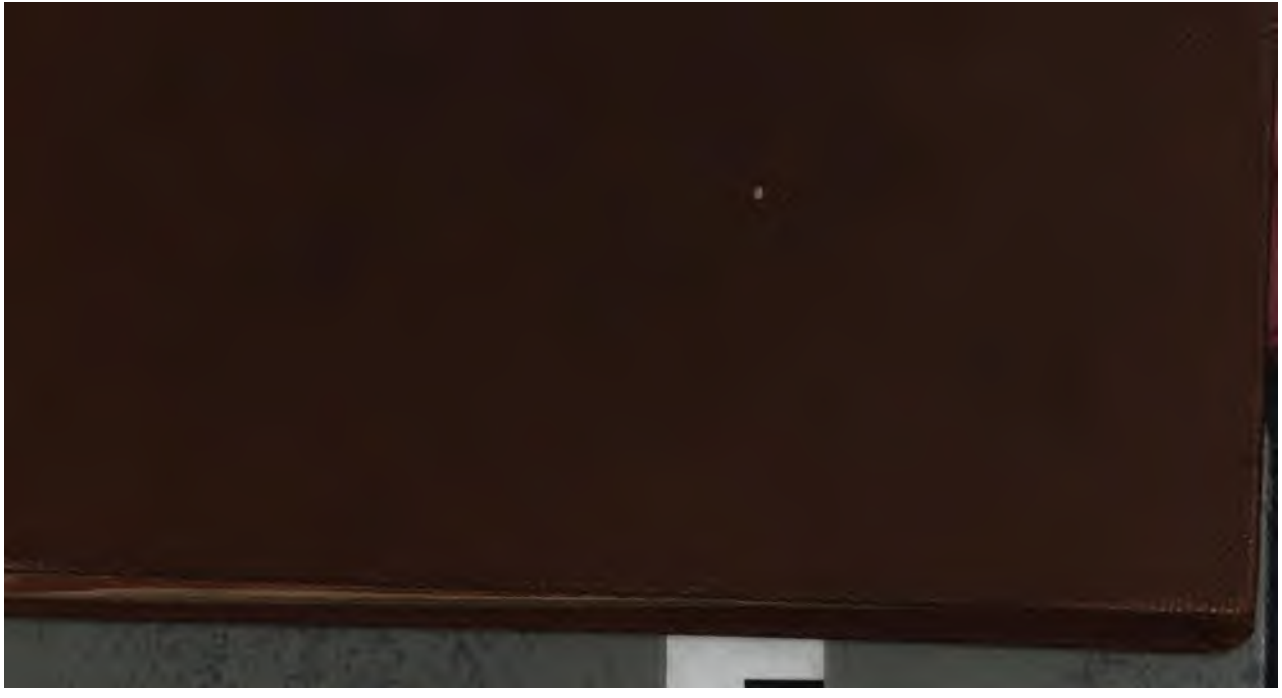
'O Lord, if thou wert but a groſs, frail, lifeleſs 'being; a lump of matter, without virtue or 'power, and the mere ſhadow of exiſtence; thy 'vain fantaſtic nature would employ their vanity, 'and thou wouldeſt be an object proportioned 'to their groveling and brutiſh thoughts. But 'becauſe thou * art too intimately within them, 'and they never enter within themſelves; thou 'art to them an unknown God. For while their 'imagination roves abroad on external objects, 'the deep receſs of their own minds is of all 'things the moſt remote from their view. That 'order and beauty, which thou ſpreadeſt over 'the face of thy creatures, are like a veil that con-'ceals thee from their diſtempered eyes. How, 'Lord, is this? Does the very light that ſhould 'illumine, ſerve only to dazzle and ſtrike them 'blind? Do the rays of the ſun hinder them from 'perceiving the ſun himſelf? In fine, becauſe 'thou art a truth too pure, and too elevated to 'paſs through the medium of our groſs ſenſes, 'men, having debaſed themſelves to a level with 'the beaſts, cannot conceive thee. And yet 'thou daily, though man d[illegible]s it, giveſt 'him ſuch inſtances of thy [illegible]nd wiſdom, 'as the evidences of ſenſe could not demonſtrate 'to him: for thoſe divine virtues have neither

* Aug. *Intimior intimo noſtro.*

'ſound, colour, odour, taſte, figure, nor any 'ſenſible quality. Why then, O my God! do 'men doubt rather of thee, than of thoſe other 'very real and manifeſt things, whoſe exiſtence 'they receive as a certain truth, in all the moſt 'ſerious affairs of life; and which, nevertheleſs, 'as well as thou, eſcape their ſenſes? O miſerable 'ſtate! O hideous night, that involves the chil-'dren of *Adam!* O monſtrous ſtupidity! O 'wretched deſolation of God's whole image! Man 'hath eyes to behold only ſhadows, and truth 'appears to him as a phantom. That which in 'itſelf is nothing, is to him every thing: that 'which, in truth, is all, ſeems to him as nothing. 'What do I ſee in the whole ſurvey of nature? 'GOD. God every-where, God ever preſent, 'and ſtill only God. When I think, O Lord, 'that all exiſtence is in thee, all my thoughts are 'exhauſted and ſwallowed up in thy contempla-'tion, O thou abyſs of truth! I know not whi-'ther I ſoar, nor what I become. All that is 'not thou, diſappears; and of myſelf ſcarce ſo 'much remains, as to diſcover to me, that I am. 'He who ſees [redacted] thee, hath ſeen nothing: he 'who doth [redacted] thee, is a ſtranger to all true 'ſentiment: he exiſts as though he exiſted not, 'and his whole life is no more than a dream. 'Ariſe, O Lord, ariſe! Let thy enemies melt 'like wax, and vaniſh like ſmoke before thy

‘ face. Wo to the impious ſoul, who, re
‘ from thee, is without God, without hope
‘ titute of eternal conſolation! Happy alre
‘ he, who ſearches after thee, who pant
‘ thirſts to enjoy thee! But completely hap
‘ upon whom the light of thy countenance ſ
‘ whoſe tears thou haſt wiped away, and
‘ deſires thy love has already accompli
‘ When, O Lord, will that time come? (
‘ rious day, without cloud, without end!
‘ thyſelf ſhalt be the ſun to enlighten it, a
‘ emanations ſhall flow through my ſoul in
‘ rent of delight. In this pleaſing hope my
‘ ſhiver, and cry out, *Who is like unto t*
‘ *Lord? My heart melts, and my fleſh fai*
‘ *God of my ſoul, and my eternal po*
Amen.

THE END.

THE NEW YORK PUBLIC LIBRARY
REFERENCE DEPARTMENT

This book is under no circumstances to be taken from the Building